

Children and Women in India

A Situation Analysis

1990



Community Health Cell**Library and Information Centre**

359, "Srinivasa Nilaya"

Jakkasandra 1st Main,

1st Block, Koramangala,

BANGALORE - 560 034.

Ph : 2553 15 18 / 2552 5372

e-mail : chc@sochara.org

Children and Women in India

**A Situation Analysis
1990**



**United Nations Children's Fund
New Delhi**

Children
and Women
in India

A Situation Analysis
1990

© UNICEF 1991

The designation employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delineation of its frontiers or boundaries.

UNICEF

India/Women/Children/
Development/Situation Analysis/UNICEF
362.795

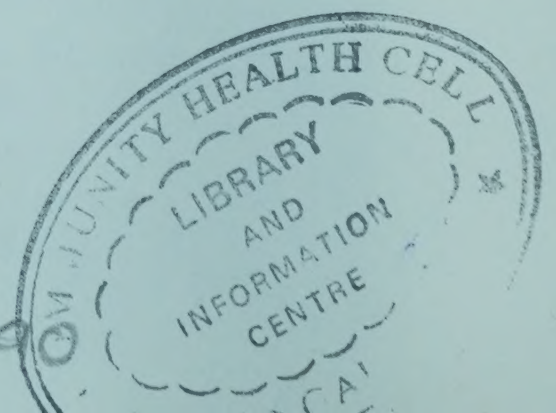
Children and Women in India
A Situation Analysis 1990. New Delhi,
UNICEF India Office, December 1990

ISBN 92 806 00583

Published by
UNICEF India Office
Planning Section
73 Lodi Estate, New Delhi 110 003, INDIA

CH-100

10529



Contents

| | | |
|---------------|------------------------------------|----|
| Foreword | | 6 |
| <hr/> | | |
| <i>Part I</i> | <i>The Life Cycle</i> | |
| | <i>The Human Condition</i> | 9 |
| <hr/> | | |
| Chapter 1 | Life before Birth | |
| | <i>Unsafe Motherhood</i> | 11 |
| | Maternal depletion | 11 |
| | Nutritional anaemia | 12 |
| | Iodine deficiency | 13 |
| | Risks at childbirth | 13 |
| | Mother care | 15 |
| | Perinatal deaths | 17 |
| | Bias before birth | 20 |
| Chapter 2 | Infancy and Early Childhood | |
| | <i>The Vulnerable Years</i> | 21 |
| | Pattern of early deaths | 22 |
| | Variables of survival | 29 |
| | Situation in slums | 32 |
| | Trends in child mortality | 32 |
| | Variations by gender | 32 |
| | Load of infections | 33 |
| | Nutritional foundations | 34 |
| | Not enough to eat | 36 |
| | Nutritional blindness | 40 |
| | Iron deficiency anaemia | 42 |
| | Hazards of iodine deficiency | 42 |
| | Childhood disability | 43 |
| | The case for caring | 44 |
| Chapter 3 | The Learning Years | |
| | <i>Firming the Foundations</i> | 47 |
| | Potential learners | 48 |
| | Child rearing practices | 48 |
| | Differentials in access | 50 |
| | The primary phase | 50 |
| | Going by enrolment | 51 |
| | In and out of school | 52 |
| | Layers of disparity | 56 |
| | Non-formal channels | 57 |

| | | |
|------------------|--|-----|
| | Working children | 60 |
| | A chance for the disabled. | 61 |
| Chapter 4 | Growing up as a Girl | |
| | <i>Life without Choice</i> | 63 |
| | Chances of survival | 64 |
| | Nutrition and growth | 67 |
| | Access to health services | 70 |
| | Opportunities to learn | 70 |
| | Necessity to work | 74 |
| Chapter 5 | The Young Woman | |
| | <i>Capacity to Cope</i> | 81 |
| | Early marriage | 81 |
| | Diminishing returns | 83 |
| | Violence against women | 86 |
| | Rate of survival | 86 |
| | Access to energy | 87 |
| | Effects of education | 88 |
| | Barriers to literacy | 96 |
| Part II | <i>The Living Context Surrounding Systems</i> | 105 |
| Chapter 6 | The Environment | |
| | Physical environment | 107 |
| | Population growth | 111 |
| | Urban expansion | 118 |
| | Water supply | 121 |
| | Shelter and sanitation | 124 |
| | Social environment | 126 |
| Chapter 7 | Structures and Services | |
| | Socio-economic structures | 129 |
| | Political-administrative system | 145 |
| | Legal framework | 146 |
| | Food and nutrition | 149 |
| | Health care | 155 |
| | Accidents and Injuries | 162 |
| | Education system | 168 |
| | Communication network | 180 |
| | Social and voluntary organizations | 184 |
| Part III | <i>Development Perspectives Policies and Strategies</i> | 189 |
| Chapter 8 | Towards Human Goals 1991 - 2000 | 191 |

| | |
|---------------------------|-----|
| List of Tables | 199 |
| List of Diagrams and Maps | 204 |
| Definitions | 205 |
| References | 208 |
| Index | 212 |

Foreword

In this analysis of the state of the 300 million children in India, we try to give an overview of their situation as well as of essential aspects of their environment, not least that of the situation of women who are the closest environment of children. The analysis builds on a variety of contributions on specific subjects, and from the different States, provided by professionals and institutions.

Most situation analyses come up against many difficulties, certainly in the case of India. How can one possibly summarise the condition and context of the lives of children in a country of such size and with wide differences: geographic, social, economic and cultural? Statistical averages rarely communicate the true picture of a diverse reality. Thus, whenever we present statistics, we have tried to portray the range of diversity, taking a holistic view rather than a sectoral path to analysis.

In order to prepare a succinct yet objective analysis, we have chosen a twin approach. First, we have sought to sketch a description that would reflect as clearly as possible the life situation through successive stages in the life cycle of the child. Second, we have tried to understand the living context of the child, not in isolated sectors, but as a whole with inter-related parts.

In following the framework of the life cycle, we have used qualitative data as well as statistics in order to stay as close as possible to the real-life experience of children. We have felt that this approach was worth pursuing, especially when the alternatives represent the risks of dehumanising and distancing the child through seemingly objective facts and figures, and thereby also removing the reader from the real problems of the child. After all, we would like reality to touch the reader, and to influence what we together want to do to contain the negative factors.

Complementing the first part of the analysis which tries to describe and analyse the condition of the child through the continuum of the life cycle, the second part looks at the social, physical and cultural environment of the child and the interacting systems which surround and substantially determine the well-being of children and women. It is hoped that the holistic and the disaggregated analyses together will enhance our understanding of the needs of children and women.

Like all attempts to encapsule complex situations and relationships in a few pages, this analysis too suffers from several weaknesses. One which is glaring is that some of the statistics are dated, particularly those derived from the national census of nearly ten years ago. All the same, we regard situation analysis as a continuing process, and hope to update those figures with new information, including the outcome of the 1991 census. Wherever possible we have tried to include findings from special surveys and studies and to make the most of the yield from regular reporting systems.

In the analysis of the situation of children and of those on whom they depend, we have tried mainly to be descriptive, letting the facts speak for themselves. However, this is not to say that we have been dispassionately objective. We admit a bias for deprived children and women and against social inequity. Thus, on occasion, we exceed the bounds of description and analysis to make normative assessments.

In pursuing the logic of the life cycle, we decided to start with life before and around birth, as that situation conditions so much of the life chances the child would have later in life. In this context, we have tried not to separate two aspects which are inextricably interlinked, namely those of safe motherhood and healthy childhood.

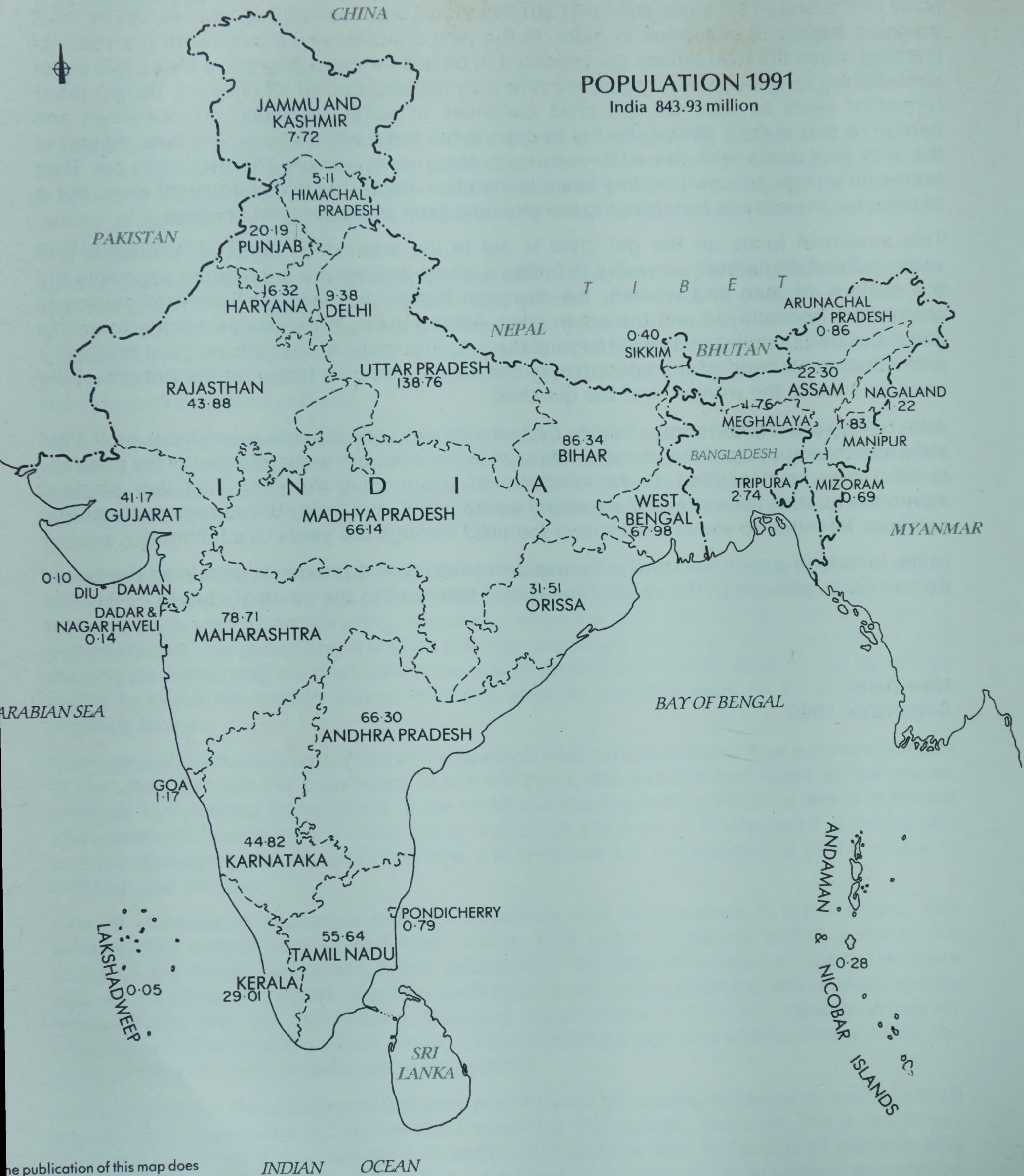
We then proceed to discuss infancy and the early years. Following this, we take up the crucial issue of the state of the girl child that already stood out, even during infancy, as the most poignant aspect of childhood in India. In the next chapter, which deals with the years of learning, when the foundations are expected to be laid for managing one's life as well as for contributing to the common good, we return to the situation of all children. During these formative years as well, the girl child continues to suffer setbacks, discrimination and hardships that make it difficult for her to cope in the same way as boys. The final chapter of the first part deals with the adolescent girl, the young woman, the mother-to-be. They represent an age group which has been, in the main, neglected in development work, but is of decisive importance for changing the situation both of women and children.

This analytical focus on the girl child is set in the context of regional, economic and socio-cultural disparities pervasive in Indian society. Among the submerged segments are the millions of men and women, the marginal farmer, landless labourer, self-employed worker, the unemployed and the urban poor. Among them, large groups belong to castes and tribes traditionally considered beyond the pale of society. Across this range of inequality, and within each band of the spectrum, is the lowest common factor, at the bottom of the heap as it were, the woman, and the girl child.

After having attempted to trace the life cycle in this way with conscious emphasis on the girl child and the situation of the young woman, we move over, in the second part of the analysis, to what may be described as the environment surrounding the child: first the physical environment, then the social and structural environment, and finally the support systems and services, intended to assist and protect the child through the years to adulthood.

In the concluding part, we briefly discuss perspectives and prospects of human rights and human goals relevant to the child of today and therefore to the country's future.

New Delhi
September 1990



The publication of this map does not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its delineation of its frontiers or boundaries.

km 200 0 200 400 km

Source: 1991 Census, Provisional

The Life Cycle

The Human Condition

In the scheme of development planning in India over nearly four decades, substantial results have been achieved in terms of aggregate economic growth and qualitative excellence in several technical and creative fields. All the same, there has admittedly been a relative, if unintended, neglect of human and social development, as distinct from the evident emphasis on material resources and service infrastructure. True, there have been significant attempts in support of the social factors of development like education, nutrition and health, each in its own sphere and respecting the distinction of their disciplinary origins and departmental jurisdictions. Not surprisingly, the essential link between the cluster of socio-cultural factors on one hand and an economic base to sustain them on the other, has remained weak. This situation has had a somewhat disabling effect particularly on that half of the population in or near conditions of poverty.

While seeking to understand the interplay of the variable factors that help or hinder the human potential, the focus of this analysis is turned on the process of development through the sequential stages of the child-woman-child life-cycle. This approach of centering the discussion on the human being commends itself on balance, despite two sets of deterrents: first, the enormous differentials in the human condition across the states and within each of them in terms of gender, social group, economic class and urban impact; and second, the disparate sources of relevant information.

While considering the factors of disparity and of development influencing the life cycle, it would be logical to begin with life before birth, from conception. Through the formative stages of life and its development, it is necessary to see the child

together with the mother. But what the mother is to the child is determined by her situation of life and status in society, as a person and as a woman. These in turn are moulded by the conditions of her own childhood and upbringing.

The passage from childhood to womanhood is admittedly difficult for a large segment of the female population, despite the general trend of hopeful change in socio-economic indicators as seen in Part II. The girl is a person in her own right, but in most parts of India and in several layers of society, her duties are defined but her rights are not recognized. The socio-economic disabilities to which a girl, or a woman, is heir is therefore a central focus of the discussion on the human condition through the life cycle.



Chapter 1

Life before Birth

Unsafe Motherhood

1.1 Motherhood for the majority of poor Indian women has always been a period fraught with difficulties, given the low nutritional and health status and harsh living conditions. While many women are being helped by improvements in health care, a set of relatively recent social changes has not made life easier for them; for example: urban growth and congestion, increasing number of nuclear families, population increase and environmental degradation.

Maternal depletion

1.2 An Indian woman, on an average, has 6-7 pregnancies, resulting in 5-6 live births, of which 4-5 survive. She is estimated to spend the greater part of her reproductive years in pregnancy and lactation. This exposure to maternal depletion is seldom

compensated by adequate basic nutrition. Rather, the food intake of women in low income groups is substantially deficient in calories. In respect of pregnant and lactating women, this daily deficiency has been estimated to be as much as 1000 kilo calories or more. During pregnancy, women from these groups gain around half the weight gained by their counterparts in the better off segments. Unlike well-nourished women, those from poorer groups need an additional sixth of the food they habitually eat, to meet the dietary requirements (an extra 300 kilo calories of energy and some 10-15 gms of protein daily) recommended by the Indian Council of Medical Research for pregnant women in the country. Studies show that dietary intake of rural and urban women in India ranges between 1200 and 1600 kilo calories per day. But there is

hardly any increase in intake during pregnancy over the pre-existing levels, despite the fact that pregnant women from low income groups continue, of necessity, to remain active throughout pregnancy. On an average, these women weigh 43 kilos prior to conception and gain around 6 kilos during pregnancy. The mean birth weight of infants is 2.7 kg. Compared to women in urban areas, rural women have to spend more energy in daily activities and weigh about 1-2 kilos less than their urban counterparts. They gain about 5 kg during pregnancy, the mean birth weight of their infants remaining much the same as the urban level. Evidence suggests that a combination of inadequate dietary intake and physical activity may result in deterioration of maternal nutritional status and poor growth of foetus. It has been computed that foetal wastages — like abortion, intra-uterine deaths and stillbirths — occur in about 20 percent of conceptions in poor communities. These very groups tend to have low birth weights and a perinatal mortality rate ranging from 50-70 per 1000 live births. Clearly, the factors which result in foetal loss overlap with those that bring about neonatal deaths. It is also likely in such cases that the consequences of under-nutrition are compounded by other pregnancy-associated problems like anaemia and hypertension.

1.3 The high birth rate (see Chapter 6) is inversely related to the health of the child as well as the mother. As is known, high fertility engenders high infant and child mortality which, in turn, increases fertility. The majority of poor women have little choice but to accept social values which place emphasis on women bearing children early, on a number of births per woman and on an explicit preference for sons.

Nutritional anaemia

1.4 Available data suggest the prevalence of anaemia in pregnancy (haemoglobin level below 11g/dl) continues to be high especially among low income groups. The reported prevalence ranges from 40 to 50 percent in urban areas, 50 to 70 percent in rural areas and nearly 90 percent in those rural areas where hookworm infestation is endemic. Iron deficiency is the dominant

cause of anaemia in India. Anaemia usually antedates pregnancy and is aggravated during pregnancy and labour. Repeated and rapid pregnancies and lactation perpetuate it. Low bio-availability of iron, more than low dietary intake of iron, could be a factor responsible for anaemia. The physiological stresses of pregnancy and lactation, apart from menstruation, are important causes of negative iron balance among Indian women; for, the overall expenditure of iron during the course of a single pregnancy is estimated to be 800 mg, a good portion of which is used up to meet the growing needs of the foetus. During lactation, maternal loss of iron is estimated at 1 mg a day. Over 10 percent of Indian women in the reproductive age-group may run a loss about 3 mg of iron a day. If the burden of hookworm infestation, estimated to be prevalent amongst 40 percent of pregnant women, is added to this picture, it follows that clinically significant anaemia (below 8g/dl of haemoglobin) is widely prevalent among pregnant women. A study in Uttar Pradesh and Bihar has confirmed this inference, showing an average of a third of pregnant women having clinically significant anaemia; and probably one out of every five of them being seriously anaemic (below 6g/dl of haemoglobin) and facing high risk of maternal and infant mortality. If the criterion of below 11g/dl haemoglobin level is applied, over 90 percent of rural pregnant women in these two states are anaemic, according to the study. (DK Agarwal et al, *Indian Pediatrics*, Volume 24, 1987). These findings compare with the reported 25-30 percent prevalence of clinically significant anaemia among pregnant women in south India.

1.5 An evaluation by the Indian Council of Medical Research of the 20-year old national programme for prevention of nutritional anaemia (involving distribution of iron and folic acid tablets to pregnant women and children for 100 days in a year), has shown that the prevalence of anaemia among pregnant women has not diminished and continues to be a staggering 87.6 percent. More significantly there was little difference observed in the prevalence of anaemia among pregnant women who were supplied with iron tablets (88.1 percent) when compared to those who did not get iron supple-

ments (87.6 percent). It could be inferred that possibly the supplement given was not adequate, the compliance was low and/or the quality of tablets was poor. The view that side-effects created problems in acceptance was not borne out. Studies in 1988 in Gujarat and Maharashtra show the following percentages of anaemia prevalence as reported by the MS University, Baroda:

| Pregnant women | Gujarat | Maharashtra |
|----------------|---------|-------------|
| 1st trimester | 86 | 68 |
| 2nd " | 92 | 83 |
| 3rd " | 93 | 94 |

Iodine deficiency

1.6 Another nutritional disorder with especially damaging effect when it comes to women, is iodine deficiency. It is now established that nutritional iodine deficiency is prevalent on an extensive scale and to disturbing levels not only in the endemic districts in the sub-Himalayan States but also in various other parts of India (Chapter 6). Largescale screening of newborns for hypothyroidism showed that 4-13 percent of them in the endemic districts had a severe form of this deficiency, which affected the growth and development of the brain and body. This, in turn, indicated the functional failure of the thyroid on the part of the mother (as well as others living in the area) as a consequence, unsuspected till lately, of nutritional iodine deficiency, arising from lack of iodine in the soil and therefore in sources of food. The prevalence rate for goitre was found to be as high as 100 percent in Bahraich district in Uttar Pradesh and 80 percent in Gonda district where the prevalence rate for cretinism was 4 percent, indicating unusual levels of risk right from birth.

Risks at childbirth

1.7 How does the existing health system (reviewed in Part II) respond to the vulnerable condition of the biological dyad that is the mother-and-child? Recall a typical village situation in any of the states in northern or central India. The woman is in an advanced stage of pregnancy. She is

going to be a mother the fourth time in 9 years and her youngest child is just a year old. In fact, she did not want this pregnancy and did not know how to avoid it. She is pale and tires easily yet she works at home and continues to help out in the farm to supplement her husband's meagre income as a landless agricultural worker. There is no one to help her. But once she is in labour, the people around call in the traditional birth attendant (dai). She starts bleeding but the dai is unable to cope with the situation. She needs to be taken to where some maternity care is available, which happens to be the district headquarters about 40 kilometres away. The health sub-centre is nearer but does not have the relevant facility. Neighbours are ready to accompany her but transportation is difficult and the roads are bad. Along with the baby to be born, she faces grave risks.

1.8 Maternal deaths are caused either by direct causes arising from complications of pregnancy, delivery or their management; or indirect causes on account of aggravation by pregnancy or child birth of an exist-

TABLE 1.1
Ratios of age-specific death rates, India, 1987.

| Age Group | Female/Male Ratios | | |
|-----------|--------------------|-------|----------|
| | Rural | Urban | Combined |
| 0-4 | 1.11 | 1.01 | 1.10 |
| 5-9 | 1.33 | 1.46 | 1.39 |
| 10-14 | 1.00 | 0.82 | 0.93 |
| 15-19 | 1.23 | 1.50 | 1.32 |
| 20-24 | 1.48 | 1.31 | 1.43 |
| 25-29 | 1.46 | 1.11 | 1.43 |
| 30-34 | 1.09 | 0.81 | 1.06 |
| 35-39 | 0.95 | 0.87 | 0.92 |
| 40-44 | 0.73 | 0.58 | 0.71 |
| 45-49 | 0.70 | 0.81 | 0.72 |
| 50-54 | 0.75 | 0.69 | 0.74 |
| 55-59 | 0.77 | 0.66 | 0.74 |
| 60-64 | 0.76 | 0.73 | 0.75 |
| 65-69 | 0.82 | 0.72 | 0.79 |
| 70 + | 0.92 | 0.84 | 0.90 |
| All ages | 1.02 | 0.92 | 1.01 |

Source: Registrar General: Sample Registration System.

ing abnormal condition; or by reasons unrelated to the state of pregnancy. Female mortality is considerably higher than male mortality upto the age of 35 years. During the reproductive age of 15-34 years, the differential (excess female mortality) is greatest in relative, rather than numerical terms, compared with the preceding age brackets. The difference is as much as 50 percent higher than the corresponding male mortality.

1.9 India's maternal mortality rate, usually estimated at 400-500 per 100,000 live births, is about 50 times higher than that of many industrialized countries. There is no figure for maternal mortality rate for the country which can be considered as reasonably conclusive, more so because levels as high as 1360 have been noted in certain rural areas. The actual risk of an Indian woman dying from a maternity related cause would be far more than what the comparative rates between India and the industrialized countries would suggest because of her larger number of pregnancies (five or six compared with one or two in industrialized countries). Maternal age and number of births have a strong effect on maternal mortality. A woman giving birth to children at the optimum age 20-35 years faces a much lower average risk than women below 20 and over 35 years. The level of risk from this factor alone can be inferred from the fact that an estimated 8 percent of around 26-27 million annual births in India are on account of mothers below 19 years, whose growth and maturation may be retarded. It is observed that maternal illness and deaths rose significant-

ly with the fourth pregnancy and reached high levels after the fifth. Some 35 percent of live births in rural areas and around 29 percent of live births in urban areas are of the fourth birth order and above: Table 1.2. In India, as in many developing countries, maternal mortality accounts for the largest or near largest proportion of deaths among women in their prime years. With the fairly high fertility levels during the reproductive span prevailing in the country, an Indian woman runs a high risk of dying, from a pregnancy-related cause. The percentage distribution of deaths by causes related to child birth and pregnancy in rural India is given in Table 1.3.

1.10 In 1987, deaths related to pregnancy and child birth accounted for 13.2 percent of deaths among rural women aged 15-45 years; and for 14.0 percent of those in the 15-24 year age-group who are most at risk of maternal mortality. As discussed earlier, the most common causes of maternal death are closely associated with malnutrition, particularly anaemia. Other major causes such as toxemia and septicemia reflect the inadequate health care actually available to women in the ante-natal, intra-natal and post-natal periods. The share of deaths from toxemia and puerperal sepsis is higher in the 15-24 year age-group which also faces considerable threat from abortion, anaemia and bleeding, the latter too being known as inter-related. These young women are thus particularly vulnerable to maternal death, in addition to their greater propensity to delivering low-weight babies and to infant loss: Table 1.4. It is estimated that out of half a million maternal deaths in the world

TABLE 1.2

Percent distribution of live births by order of birth - 1984

| Order of Birth | Rural | Urban | All-India |
|----------------|--------|--------|-----------|
| 1 | 26.23 | 29.40 | 26.91 |
| 2 | 21.52 | 23.99 | 22.05 |
| 3 | 17.69 | 17.95 | 17.74 |
| 4 | 12.95 | 11.43 | 12.63 |
| 5 + | 21.61 | 17.23 | 20.67 |
| Total | 100.00 | 100.00 | 100.00 |

Source : Registrar General : Survey on Birth order differentials, 1984.

TABLE 1.3

Percentage distribution of deaths by cause related to child-birth and pregnancy 1981 - 1987.

| Specific causes | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|-------|-------|-------|-------|-------|-------|
| Abortion | 13.7 | 10.1 | 10.7 | 10.8 | 11.5 | 8.0 |
| Toxaemia | 8.0 | 12.5 | 12.1 | 10.8 | 6.7 | 11.9 |
| Anaemia | 17.7 | 24.4 | 18.9 | 23.3 | 23.1 | 17.0 |
| Bleeding of pregnancy and puerperium | 23.4 | 26.2 | 23.5 | 18.8 | 15.9 | 21.6 |
| Malposition of child leading to death of mother | 9.2 | 7.2 | 8.3 | 6.2 | 7.7 | 6.2 |
| Puerperium sepsis | 13.1 | 8.3 | 11.6 | 10.8 | 13.9 | 13.1 |
| Not classifiable | 14.9 | 11.3 | 14.6 | 19.3 | 21.2 | 22.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Sample number of deaths | 175.0 | 168.0 | 206.0 | 176.0 | 208.0 | 176.0 |
| Percentage of total deaths | 1.0 | 1.0 | 1.2 | 1.0 | 1.2 | 1.0 |

Source : Registrar General: Survey of Causes of Deaths (Rural) 1984 and 1987.

each year about 20 percent are in India—the highest number in any one country.

Mother care

1.11 The type of care received at childbirth is often critical for the health and survival of both infant and mother. A significant proportion of neo-natal deaths is attributed to poor birth practices. During 1987, only about 32 percent of births in rural areas and 74 percent in urban areas were in institutions or attended to by trained personnel. In the villages of Jammu and Kashmir, Rajasthan and Madhya Pradesh, the percentage is less than 10. Traditional birth attendants are unable to attend to complications and health professionals are contacted too late. Both these factors point to the need to identify mothers at risk during the prenatal period. Family support at the time of birth is important; a 1988 study suggests that infants born in the houses of mothers' parents have a significantly lower mortality rate than those born in the homes of fathers' parents. Possibly this is linked not only to care at birth but also to additional nutrition and reduced workload.

1.12 In conjunction with malnutrition, chronic illnesses (like malaria, tuberculosis, hepatitis, iodine deficiency, sexual-

ly transmitted diseases, heart disease and upper tract infection), heighten the severity of the attack on pregnant women and increase the risk of abortion and low-birth weight. For example, it has been found that in Alwar (Rajasthan), the maternal mortality rate was 592 per 100,000 live births; and for every maternal death, some 60 episodes of illness occurred. On an average, 16.5 episodes were related directly to pregnancy and child birth and together represented the leading cause and a quarter of overall morbidity.

1.13 Even though abortions have been legalised in India as a health measure since 1972, mortality and morbidity due to "illegal" abortions and birth attention by incompetent persons in unhygienic conditions, remain a major problem, mainly because of ignorance of the law and non-availability of professional services within easy reach of most of the rural population. Only around half a million pregnancy terminations were performed through the health services in the fiscal year 1987-88, which is around 9 percent of the induced abortions likely to have been performed during the same period. Since the inception of this formal facility, 5.80 million abortions have been performed under it, which is less than the total number of induced

TABLE 1.4

Distribution of deaths during pregnancy and childbirth by specific cause and age group

| (years) | 15-24 | 25-34 | 35-44 | All ages |
|-------------------------------------|----------------------------|-------|-------|----------|
| By cause | Percent deaths 1987 | | | |
| Abortion | 40.0 | 46.6 | 13.4 | 100.0 |
| Toxemia | 46.2 | 46.2 | 7.6 | 100.0 |
| Anaemia | 31.4 | 31.4 | 37.2 | 100.0 |
| Bleeding in pregnancy or puerperium | 43.6 | 47.3 | 9.1 | 100.0 |
| Malposition of foetus | 35.0 | 35.0 | 30.0 | 100.0 |
| Puerperal sepsis | 23.8 | 61.9 | 14.3 | 100.0 |
| Not classified | 29.9 | 57.9 | 13.2 | 100.0 |
| By age group | Percent deaths 1987 | | | |
| Abortion | 8.6 | 7.6 | 5.7 | 7.6 |
| Toxemia | 8.6 | 6.5 | 2.9 | 6.6 |
| Anaemia | 15.7 | 12.0 | 37.1 | 17.8 |
| Bleeding in pregnancy or puerperium | 34.3 | 28.3 | 14.3 | 27.9 |
| Malposition of foetus | 10.0 | 7.6 | 17.1 | 10.1 |
| Puerperal sepsis | 7.1 | 14.1 | 8.6 | 10.7 |
| Not classified | 15.7 | 23.9 | 14.3 | 19.3 |
| All causes | 100.0 | 100.0 | 100.0 | 100.0 |

Source : Registrar General : Survey of Causes of Deaths, (Rural), 1987

abortions likely to happen in one year. Induced abortions reflect, in fact, an unmet need of women for family planning and highlight gaps between demand for family planning on one hand and availability, accessibility and actual use of services on the other. Table 1.5 on the type of attention at birth in rural areas, illustrates one such glaring gap. A recent survey (National Sample Survey, 42nd round, 1986-87), showed that about 81 percent of births in rural areas and nearly 47 percent of them in urban areas take place at home and nearly 33 percent of such births in rural India and 26 percent in urban India are unattended. These proportions tend to fall as adult female education and per capita household expenditure increase. An appraisal of health services, in relation to the needs of users is in Part II, but it is possible to bridge the gaps, by increasing demand through awareness and by improving service delivery through higher capacity. The recently reported tetanus toxoid immunization coverage of around two-thirds of pregnant women in

India is an example of what can be done, given the will. Started in 1960, and boosted in the second half of the 1980s by the Immunization Mission, this intervention is picking up as part of ante-natal care. Problems persist in that the national average of tetanus toxoid coverage masks variations among states ranging from 16 percent in Assam to 99 percent in Kerala.

1.14 Family planning has generally been pursued more from a demographic and policy angle than from the perspective of the family, much less that of the would-be mother in impoverished communities which contribute the most to the high birth rate. Experience supports the view that family planning would be more acceptable to the parents, if the basic health and development needs of children already born were reasonably met.

1.15 Demographically, early child bearing is associated with rapid population growth for two reasons: it shortens the span between generations and it leads to more

births, shorter birth intervals and larger family size. Currently, an estimated 4.5 million marriages take place annually in India. Of these more than a half appear to be in the 15-19 year age-group. The highest risk groups among pregnant women have been identified as: those under 18 years (too young); those older than 35 (too old); those with more than four births (too many); and those with pregnancies less than two years apart (too close). As noted in Chapter 5, some 8 percent of all births (1978) in India occur to girls between 15 and 19 years of age. And within this young age group, the number of births in a year for 1000 girls is substantial at 187 (rural) and 218 (urban). The age specific fertility rate (1987) ranges widely among the states from 22 in Punjab and 33 in Kerala at one end of the spectrum

tion during pregnancy and child birth, is considered in Part II. In this chapter, the additional consequences of current neglect in terms of perinatal mortality and low birth weight are discussed in the following paragraphs.

Perinatal deaths

1.16 While the infant mortality rate has lately fallen, after remaining at a plateau for a decade, it is still unacceptably high. About a third of all deaths occur in the first year of life; two-fifths of these in the first month of life; and nearly half of these in the first week.(Table 2.3) What is equally significant is that the fall in the infant mortality has mainly been on account of the improvement in the post-neonatal period, from the 28th day of life through 11 months. This

TABLE 1.5

Type of attention at birth in rural areas, 1987

| States | Institutional | Attended by trained professionals | Attended by untrained workers & others |
|------------------|---------------|---|--|
| Rural INDIA | 14.7 | 17.8 | 67.5 |
| Andhra Pradesh | 15.0 | 21.5 | 63.5 |
| Assam | 10.7 | 8.0 | 81.3 |
| Bihar | 9.2 | 11.5 | 79.3 |
| Gujarat | 15.5 | 34.5 | 50.0 |
| Haryana | 15.9 | 64.6 | 19.5 |
| Himachal Pradesh | 21.9 | 12.6 | 65.5 |
| Jammu & Kashmir | 6.9 | 15.9 | 77.2 |
| Karnataka | 19.3 | 29.8 | 50.9 |
| Kerala | 77.3 | 8.1 | 14.6 |
| Madhya Pradesh | 2.7 | 11.1 | 86.2 |
| Maharashtra | 20.8 | 10.4 | 68.8 |
| Orissa | 3.6 | 13.8 | 82.6 |
| Punjab | 6.7 | 67.0 | 26.3 |
| Rajasthan | 1.5 | 9.8 | 88.7 |
| Tamil Nadu | 30.2 | 20.9 | 48.9 |
| Uttar Pradesh | 2.6 | 17.0 | 80.4 |
| West Bengal | 21.4 | 6.8 | 71.8 |

Source : Registrar General, Sample Registration System, 1987.

to 103, 105, 131 and 139 respectively in Rajasthan, Bihar, Madhya Pradesh and Andhra Pradesh at the other. The variety of factors influencing the prospect of India's demographic transition from high birth rate to low birth rate, including competent atten-

means that neo-natal mortality has hardly budged from an estimated 70 to 69 in urban areas and not at all in rural areas. Against this background, it would be useful to look at the perinatal mortality rate which includes foetal deaths beyond 28 weeks of

TABLE 1.6

Statewise perinatal mortality rates. India: 1971, 1981, 1987 (Rural rates shown in brackets)

| States/Years | 1971 | 1981 | 1987 |
|------------------|-------------|-------------|-------------|
| Andhra Pradesh | 70.9 (75.5) | 53.4 (58.0) | 50.5 (54.3) |
| Assam | 91.9 (94.7) | 57.6 (58.3) | 68.7 (69.8) |
| Bihar | - (-) | 59.8 (62.8) | 46.9 (49.4) |
| Gujarat | 71.8 (78.4) | 54.5 (58.6) | 49.6 (57.5) |
| Haryana | 34.6 (35.3) | 50.0 (53.2) | 48.3 (54.9) |
| Himachal Pradesh | 46.8 (45.2) | 06.4 (06.1) | 39.7 (41.0) |
| Jammu & Kashmir | - (-) | 38.3 (40.6) | 57.8 (61.8) |
| Karnataka | 57.2 (63.0) | 43.2 (48.2) | 57.0 (64.6) |
| Kerala | 41.5 (42.5) | 28.6 (30.1) | 24.9 (24.8) |
| Madhya Pradesh | 53.1 (54.0) | 60.8 (63.3) | 51.8 (55.3) |
| Maharashtra | 59.0 (62.1) | 45.2 (52.4) | 47.0 (54.0) |
| Orissa | - (-) | 50.2 (51.8) | 73.2 (75.5) |
| Punjab | 60.3 (64.5) | 42.3 (46.3) | 44.8 (47.2) |
| Rajasthan | - (-) | 41.4 (45.1) | 52.0 (54.7) |
| Tamil Nadu | 55.2 (59.8) | 51.7 (60.6) | 51.2 (56.8) |
| Uttar Pradesh | 69.4 (72.6) | 69.9 (73.6) | 52.1 (56.2) |
| West Bengal | - (-) | 52.9 (55.7) | 39.7 (44.3) |

Source : Registrar General : Sample Registration System

gestation, deaths of infants at birth and infant deaths within seven days of birth. This is a sensitive index reflecting standards of health care prior to and during pregnancy and the child birth, as well as the effectiveness of social measures in support of the vulnerable segment of the people.

1.17 The perinatal mortality rates across the states are shown in Table 1.6. Orissa, Assam, Uttar Pradesh, Jammu and Kashmir, Karnataka, Tamil Nadu, Andhra Pradesh, Madhya Pradesh and Rajasthan have a rate of 50 and above, as of 1987. For most of these states, the position has remained more or less unyielding for nearly two decades. Available data show that the rural rates contribute to the prevailing high levels. Also, the differentials between rural and urban areas have persisted over the years in all the states, the rural rate being higher than the urban, indeed twice as high in some areas. The higher perinatal mortality rates in teaching hospitals (over 79 per 1000) may be due to late admissions for childbirth. Clearly, the causes of these high rates are mainly of maternal origin related

to the growth and development of life in the womb.

1.18 The stillbirth rate (included in the perinatal death rate) is 12.9 (1987) for the country, indicating high pregnancy wastage. It is more in the rural areas (13.6) than in urban areas (9.8). The rate ranges from 8.1 in Gujarat to 23.7 in Punjab.

1.19 Among the causes of high perinatal mortality are inadequate health care facilities, illiteracy and unreliable quality of referral services. According to the National Sample Survey (1986-87), 21 percent of mothers were registered for pre-natal care in the rural sector, while the corresponding percentage in urban India was 47. Economic status, age of the mother, multiple births, mother's educational status, interval between pregnancies and maternal diseases are contributing factors. Other ante-natal causes too are pertinent, such as previous stillbirths, anoxia, toxemia, haemorrhage, congenital defects and a variety of obstetric complications, compounded by inadequate attention at birth.

TABLE 1.7

Statewise stillbirth rates, India: 1971, 1981, 1987

| States/Years | 1971 | 1981 | 1987 |
|------------------|------|------|------|
| Andhra Pradesh | 25.0 | 13.8 | 10.0 |
| Assam | 33.0 | 16.8 | 16.7 |
| Bihar | - | 11.2 | 11.4 |
| Gujarat | 18.7 | 4.4 | 8.1 |
| Haryana | 6.7 | 11.5 | 15.6 |
| Himachal Pradesh | 19.4 | - | 16.6 |
| Jammu & Kashmir | - | 16.1 | 32.3 |
| Karnataka | 17.5 | 11.7 | 18.1 |
| Kerala | 17.5 | 11.3 | 11.1 |
| Madhya Pradesh | 9.1 | 9.5 | 12.4 |
| Maharashtra | 15.6 | 8.3 | 13.6 |
| Orissa | - | 9.8 | 21.8 |
| Punjab | 23.7 | 13.2 | 23.7 |
| Rajasthan | - | 7.6 | 9.0 |
| Tamil Nadu | 22.1 | 8.6 | 13.4 |
| Uttar Pradesh | 13.3 | 12.6 | 11.6 |
| West Bengal | - | 9.2 | 14.8 |
| India | 17.5 | 10.6 | 12.9 |

Source : Registrar General : Sample Registration System

Suffocation (asphyxia) and respiratory infection of the newborn have also been observed as causes of perinatal death.

1.20 Prematurity and low birth weight (below 2500 gms) are important determinants of the chance of the newborn to survive and to experience healthy growth and development. It is strongly conditioned by the nutritional and health status of the mother.

1.21 A study was carried out in three urban slums in Madras, Delhi and Calcutta and three rural areas near Chandigarh, Varanasi and Hyderabad during 1981-84, by ICMR covering a population of 30,000 in each centre. Total population surveyed was 180,000 individuals.

1.22 A total of 7,586 pregnant mothers (3,197 in urban slums and 4,389 in rural areas) were prospectively followed from delivery till the new-borns were one year. The average birth weight ranged between 2.5 - 2.8 kg. and the prevalence of low-birth-weight babies (below 2500 gm) ranged be-

tween 25.9 - 56.9 percent in urban slums (highest being at Calcutta slum) and 35.2 - 40.8 percent in rural communities.

1.23 The study has revealed strong correlations between a number of factors and low birth weight such as:

- Age of mother below 19 years and over 35 years
- Maternal weight below 40 kg
- Maternal height below 145 cms
- Weight gained during pregnancy below 5 kg
- Inter pregnancy interval below 24 months
- Haemoglobin less than 8 gms per cent
- Maternal illiteracy

1.24 While the incidence of low-birth-weight babies below 2500 gms of birth weight ranged between 25.9 - 56.9 percent, whereas babies with birth weight below

2000gms ranged from 10-15 percent. Ninety percent of the deaths occur in infants with birth weight below 2000 gms.

1.25 These proportions appear to have hardly changed over the past three decades. Low birth weight may be due to prematurity or intrauterine growth retardation. It is estimated that about 20-25 percent of low birth weight infants in India are pre-term, while as many as 75-80 percent would have suffered growth retardation before birth. It is observed that most cases of low birth weight at term are attributable to maternal anaemia and malnutrition. A number of other factors have been identified as associated with low birth weight: maternal age, literacy, income, weight before pregnancy, height, age, parity, birth interval, exposure to smoke, smoking, tobacco chewing, maternal infection and pregnancy-related complications. An unfortunate conclusion from the foregoing is that health services have not been effective

enough to reach the pregnant woman at the time when her need and vulnerability are most.

Bias before birth

1.26 A study in Ludhiana (Punjab) shows a very high secondary sex ratio, defined as number of males per 100 females at birth per year.

1.27 The reason for the unusual skewness in the data in Table 1.8 appears to be that not enough females are being allowed to be born as a result of sex-selective abortion of the female foetus. The inference is supported by a 1984 report from Bombay on abortion after pre-natal sex determination in which 7999 out of 8000 of the aborted foetuses were females. This raises deeper issues related to social values.

TABLE 1.8

Hospital and community data on live births

| | | Year of study | | | | |
|----------------------------------|-----------|---------------|--------|--------|--------|--------|
| | | 1981 | 1983 | 1985 | 1987 | 1989 |
| Total number of live births | Hospital | 6043 | 5721 | 6643 | 8033 | 7253 |
| | Community | .. | .. | 885 | 894 | 1210 |
| Percentage of male live births | Hospital | 51.15 | 53.12 | 52.94 | 53.34 | 54.92 |
| | Community | .. | .. | 50.17 | 53.24 | 54.38 |
| Percentage of female live births | Hospital | 48.85 | 46.88 | 47.06 | 46.66 | 45.08 |
| | Community | .. | .. | 49.83 | 46.75 | 45.62 |
| Number of males per 100 females | Hospital | 104.70 | 113.30 | 112.50 | 114.33 | 121.80 |
| | Community | .. | .. | 100.68 | 113.88 | 119.20 |

Source : Dayanand Medical College and Hospital, Ludhiana.



Chapter 2

Infancy and Early Childhood

The Vulnerable Years

2.1 Depending on the highly variable conditions of living in India, the very first year of life, and the next two, could be an exciting phase of rapid growth and development of the budding brain and body; or contrarily, a prolonged and unequal struggle for survival with an uncertain outcome. Maternal factors, as seen from the preceding discussion are a determinant of which way the balance tilts. The factors related to an environment of poverty in its many forms are another, as reviewed in Part II. What is clear, on both these counts, is that a majority of the survivors are left to build their lives on less than firm foundations. What this implies for the longer term could be summed up thus: "...Survival from severe malnutrition may constitute the event that starts a developmental path characterized by psychologically defective

functioning, school failure and subsequent adaptive functioning. At the familial and societal levels, the ultimate result of this chain of events is what in an ecological sense could be called 'a spiral effect'. A low level of adaptive functioning, lack of modern knowledge, social custom, infection, or environmental insufficiency of foods produce malnutrition which gives a large pool of survivors who come to function in sub-optimal ways. Such survivors are themselves at risk of being the victims of their poor socio-economic environment, being less effective than otherwise would be the case, in their social adaptations. In turn they will choose mates of similar characteristics and may rear children under conditions and in a fashion fatally programmed to produce a new generation of malnourished individuals." (Cravioto).

TABLE 2.1

Average estimated infant mortatily rates, India and major states, 1978-82 and 1983-87.

| INDIA/State | 1978-82 | 1983-87 | Column 3 as percentage of column 2 |
|------------------|---------|---------|------------------------------------|
| INDIA | 115 | 99 | 86 |
| Andhra Pradesh | 96 | 80 | 83 |
| Assam | 107 | 103 | 96 |
| Gujarat | 117 | 103 | 88 |
| Haryana | 101 | 90 | 89 |
| Himachal Pradesh | 83 | 85 | 102 |
| Jammu & Kashmir | 72 | 77 | 107 |
| Karnataka | 74 | 72 | 97 |
| Kerala | 38 | 30 | 79 |
| Madhya Pradesh | 141 | 121 | 86 |
| Maharashtra | 78 | 70 | 90 |
| Orissa | 138 | 128 | 93 |
| Punjab | 91 | 69 | 76 |
| Tamil Nadu | 94 | 80 | 85 |
| Uttar Pradesh | 159 | 142 | 89 |

Source : Registrar General

TABLE 2.2

Estimated infant mortality rates for major states, 1988.

| States | Rural | Urban | Combined |
|------------------|-------|-------|----------|
| Andhra Pradesh | 87 | 63 | 82 |
| Assam | 101 | 67 | 100 |
| Bihar | 100 | 70 | 97 |
| Gujarat | 101 | 64 | 91 |
| Haryana | 96 | 64 | 89 |
| Himachal Pradesh | 81 | 41 | 79 |
| Jammu & Kashmir | 76 | 54 | 73 |
| Karnataka | 83 | 46 | 74 |
| Kerala | 30 | 22 | 28 |
| Madhya Pradesh | 127 | 83 | 120 |
| Maharashtra | 76 | 49 | 68 |
| Orissa | 127 | 70 | 122 |
| Punjab | 63 | 59 | 62 |
| Rajasthan | 111 | 67 | 103 |
| Tamil Nadu | 84 | 51 | 74 |
| Uttar Pradesh | 132 | 79 | 123 |
| West Bengal | 76 | 43 | 70 |
| India | 102 | 61 | 94 |

Source : Registrar General : Sample Registration System

Pattern of early deaths

2.2 As will be seen later in this chapter, some positive changes have happened in India, of which the rate of infant mortality provides a sensitive and readily available index: Table 2.1. All the same, mortality rates of infants and children under 5 years still remain at levels which are unacceptably high from any angle of vision: gender discrimination, international and intra-country comparisons or the wide variations masked by national averages. The high rates also point to the downward spiral of the interplay between malnutrition and infection, between the stark disparities in the socio-economic environment and social service systems and the inter-generational consequences observed in the preceding paragraph. Finally, the emotional depths of the human tragedy inflicted by the death of a young child on the immediate family, fall beyond the measuring capacity of statistics.

2.3 Consider the statistics: There has been a substantial, if not steady decline in the infant mortality rate over the years from 220 at the beginning of the century to 160

TABLE 2.3

Percentage of (a) infant deaths to total deaths, (b) neo-natal deaths to infant deaths (c) deaths among children (0-4 years) to total deaths, 1987

| States | (a) | (b) | (c) |
|------------------|------|------|------|
| Andhra Pradesh | 24.2 | 68.8 | 32.4 |
| Assam | 30.2 | 72.4 | 42.9 |
| Bihar | 28.4 | 59.2 | 44.5 |
| Gujarat | 30.2 | 56.0 | 41.6 |
| Haryana | 33.8 | 52.9 | 45.4 |
| Himachal Pradesh | 29.8 | 46.4 | 35.1 |
| Jammu & Kashmir | 28.8 | 58.2 | 36.6 |
| Karnataka | 24.9 | 71.3 | 36.0 |
| Kerala | 9.9 | 69.2 | 13.3 |
| Madhya Pradesh | 32.9 | 54.9 | 51.4 |
| Maharashtra | 23.1 | 71.6 | 32.2 |
| Orissa | 29.9 | 68.1 | 45.5 |
| Punjab | 22.1 | 51.6 | 29.2 |
| Tamil Nadu | 18.3 | 63.0 | 25.2 |
| Uttar Pradesh | 33.2 | 56.3 | 50.1 |
| Rajasthan | 30.7 | 60.2 | 51.1 |
| West Bengal | 24.6 | 58.3 | 36.3 |
| India | 28.1 | 60.4 | 42.0 |

Source : Registrar General

at the time of Independence (1947) to about 94 in 1988. As seen from Table 2.2, this achievement represented by the latter figure shows pronounced disparities between the States, from 28 in Kerala to 123 in Uttar Pradesh. It also proves that even within the economic constraints, a relatively low infant mortality rate can be reached and more than maintained. The other side of the coin is that over 27 percent of all deaths are accounted for by deaths during the first year of life. Table 2.3.

2.4 In assessing the determinants that govern the variety of differentials behind infant mortality, it would be useful to see the elements that make up infant mortality rate: namely the neo-natal mortality rate (upto 28 days of life) and the post-neonatal rate (from 28th day through 11 months) Table 2.4. As noted in the previous chapter, the perinatal mortality rate has remained rather stubborn and has shown proportionately the least decline from 55.2 in 1975 to 48.1 in 1985. Such decline as has occurred in the overall infant mortality rate is mainly on account of improvements in the post-neonatal period. The differential trends in

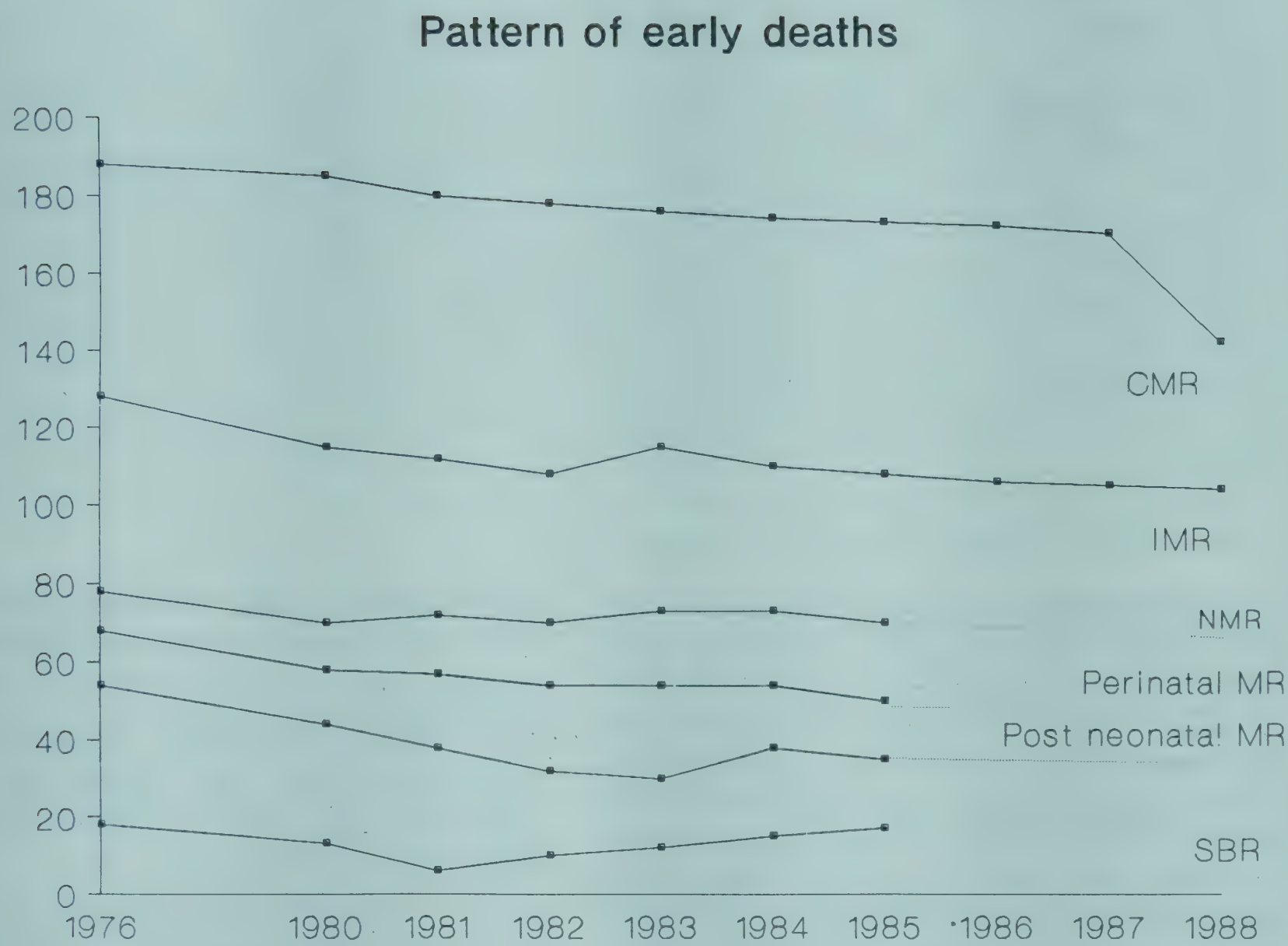
the mortality rates in these two phases should not obscure the fact that perinatal events often affect the quality of later life.

2.5 Among the factors influencing infant mortality rates, three levels are usually identified, as follows, in ascending order of proximity to infant death:

- Community environment: availability of social amenities
- Household environment: physical, social and economic support
- Infant care: at birth as well as the pre-natal and post-natal stages.

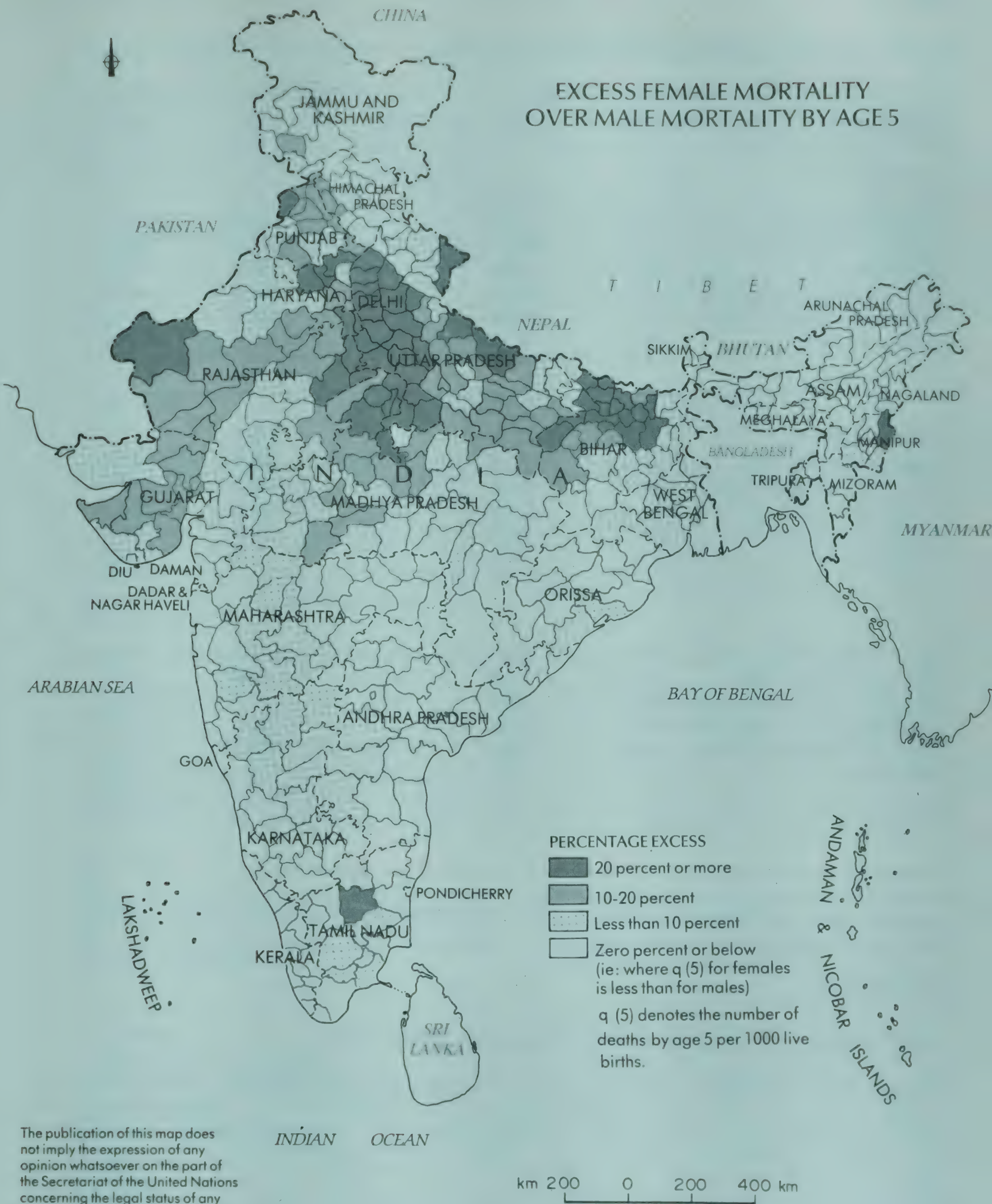
At the all-India level, about 12 percent of children (0-4 years) in rural areas and about 29 percent of them in urban areas are reckoned to have access to health care. The percentage in rural areas of all States was seen to be low except in Pondicherry (54.5), Goa (46.7), Tamil Nadu (39.8) and Kerala (32.2). Tables 2.5 to 2.13 shed more light on factors influencing infant mortality. Some analysts, while comparing inter-state differentials have attributed lower infant mortality to higher social development. For

DIAGRAM 2.1



CMR – Deaths < 5 years per 1000 live births
IMR – Deaths < 1 year per 1000 live births
NMR – Deaths 0-28 days per 1000 live births
Post NMR – Deaths 28 days-1 year per 1000 live births
SBR – Still births per 1000 births
Perinatal MR – SBR + Deaths 0-7 days per 1000 live births

EXCESS FEMALE MORTALITY OVER MALE MORTALITY BY AGE 5



The publication of this map does not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its delineation of its frontiers or boundaries.

Source: Census 1981

TABLE 2.4

Mortality indicators upto age of one year, 1976 - 1987.

| Indicator | 1976 | 1981 | 1983 | 1985 | 1987 |
|---------------------------|-------|-------|-------|-------|-------|
| Rural | | | | | |
| Crude death rate | 16.3 | 13.7 | 13.1 | 13.0 | 12.0 |
| Infant mortality rate | 139.0 | 119.1 | 113.8 | 107.0 | 104.0 |
| Neo-natal mortality rare | 83.0 | 75.6 | 73.6 | 66.6 | 63.6 |
| Post-natal mortality rate | 56.0 | 43.5 | 40.2 | 39.9 | 40.5 |
| Peri-natal mortality rate | 76.6 | 58.8 | 57.7 | 52.4 | 54.4 |
| Still birth rate | 18.7 | 11.4 | 9.4 | 10.8 | 13.6 |
| Urban | | | | | |
| Crude death rate | 9.5 | 7.8 | 7.9 | 7.8 | 7.4 |
| Infant mortality rate | 80.0 | 62.5 | 65.8 | 58.9 | 61.0 |
| Neo-natal mortality rate | 49.0 | 38.5 | 39.3 | 33.3 | 33.3 |
| Post-natal mortality rate | 31.0 | 24.0 | 26.5 | 25.6 | 27.3 |
| Peri-natal mortality rate | 43.7 | 31.5 | 35.1 | 30.4 | 32.4 |
| Still birth rate | 11.1 | 6.2 | 8.4 | 8.9 | 9.8 |
| Combined | | | | | |
| Crude death rate | 15.0 | 12.5 | 11.9 | 11.8 | 10.9 |
| Infant mortality rate | 129.0 | 110.4 | 104.9 | 97.0 | 95.0 |
| Neo-natal mortality rate | 77.0 | 69.9 | 67.2 | 60.1 | 57.7 |
| Post-natal mortality rate | 52.0 | 40.5 | 37.7 | 37.1 | 37.7 |
| Peri-natal mortality rate | 66.8 | 54.6 | 53.6 | 48.1 | 50.1 |
| Still birth rate | 17.5 | 10.6 | 9.3 | 10.4 | 12.9 |

Source : Registrar General, Sample Registration System.

example, as between Kerala and West Bengal, Kerala has much lower infant and child mortality rates than West Bengal, despite West Bengal being better off than Kerala in

respect of economic factors. Investigations confirm the importance of social development in terms of health services and education; but at the same time also

TABLE 2.5

Infant mortality rate by present age of the woman, India, 1984

| Present age (years) | Infant Mortality Rate | | |
|---------------------|-----------------------|-------|----------|
| | Rural | Urban | Combined |
| 15-19 | 111.5 | 88.9 | 107.6 |
| 20-24 | 107.6 | 58.8 | 96.7 |
| 25-29 | 102.8 | 56.7 | 92.8 |
| 30-34 | 120.3 | 71.1 | 111.6 |
| 35-39 | 123.8 | 76.1 | 116.6 |
| 40-44 | 140.2 | 106.4 | 136.0 |
| 45-49 | 63.0 | 51.6 | 61.6 |

TABLE 2.6

Infant mortality rate by age at marriage of the woman, India, 1984

| Age at marriage (years) | Infant Mortality Rate | | |
|----------------------------|-----------------------|-------|----------|
| | Rural | Urban | Combined |
| Below 12 | 144.0 | 61.3 | 135.3 |
| 12-14 | 127.2 | 82.1 | 121.7 |
| 15-17 | 112.4 | 74.3 | 105.5 |
| 18-20 | 103.3 | 61.8 | 93.6 |
| 21-23 | 93.4 | 42.3 | 78.2 |
| 24+ | 99.1 | 35.0 | 81.9 |

TABLE 2.7

Infant mortality rate by religion of the woman, India, 1984.

| Religion | Infant Mortality Rate | | |
|-----------|-----------------------|-------|----------|
| | Rural | Urban | Combined |
| Hindu | 117.2 | 62.9 | 107.6 |
| Muslim | 106.5 | 82.3 | 98.9 |
| Christian | 45.7 | 20.2 | 40.1 |
| Sikh | 60.6 | 26.5 | 54.4 |
| Others | 90.2 | 94.2 | 91.2 |

TABLE 2.8

Infant mortality rate by scheduled caste/tribe status of the woman, India, 1984.

| Caste | Infant Mortality Rate | | |
|---------------------------|-----------------------|-------|----------|
| | Rural | Urban | Combined |
| Scheduled Caste (SC) | 131.7 | 92.9 | 126.5 |
| Scheduled Tribe (ST) | 103.2 | 67.7 | 101.1 |
| Non Scheduled Caste Tribe | 110.0 | 62.5 | 99.2 |

TABLE 2.9

Infant mortality rate by level of education of the woman, India, 1984.

| Level of education | Infant Mortality Rate | | |
|------------------------------------|-----------------------|-------|----------|
| | Rural | Urban | Combined |
| Illiterates | 124.3 | 88.5 | 119.9 |
| Literate but below Primary | 84.5 | 67.5 | 79.7 |
| Primary but below Matriculation | 62.1 | 38.8 | 52.5 |
| Matriculation and above | 38.6 | 13.0 | 21.0 |

demonstrate the importance of economic variables. The wide variety of factors influencing infant mortality would also include nutrition of mothers, age at marriage and birth spacing. Attempts to reduce the

high level of infant mortality in many states in India, must take into account its uneven occurrence. As noted in paragraph 1.17, over two-fifths of infant deaths fall in the first month of life (Table 2.3); nearly half of

TABLE 2.10

Infant mortality by total annual income of the household, India, 1984.

| Annual income (Rs.) of the household | Infant Mortality Rate | | |
|---|-----------------------|-------|----------|
| | Rural | Urban | Combined |
| 5,000 and below | 128.6 | 85.4 | 124.2 |
| 5,001-10,000 | 108.1 | 71.5 | 100.7 |
| 10,001 and above | 91.0 | 51.5 | 79.7 |

DIAGRAM 2.3

Infant mortality by source of drinking water, 1984

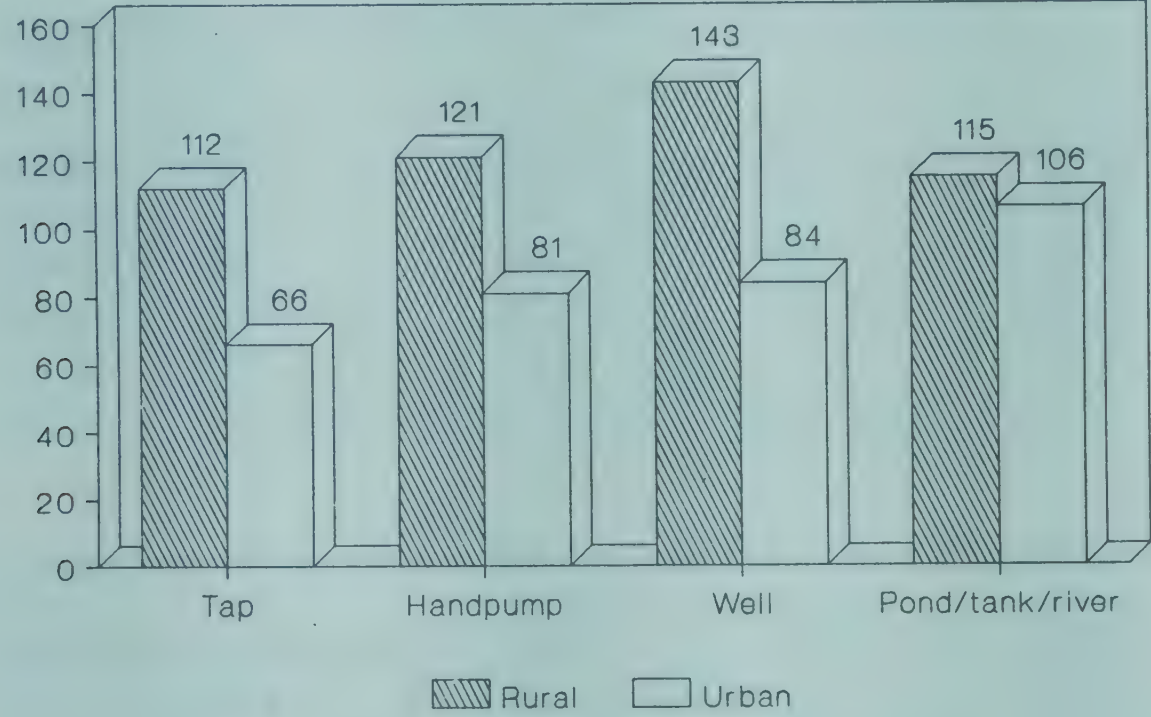


DIAGRAM 2.4

Infant mortality in rural areas by availability of social amenities, 1984

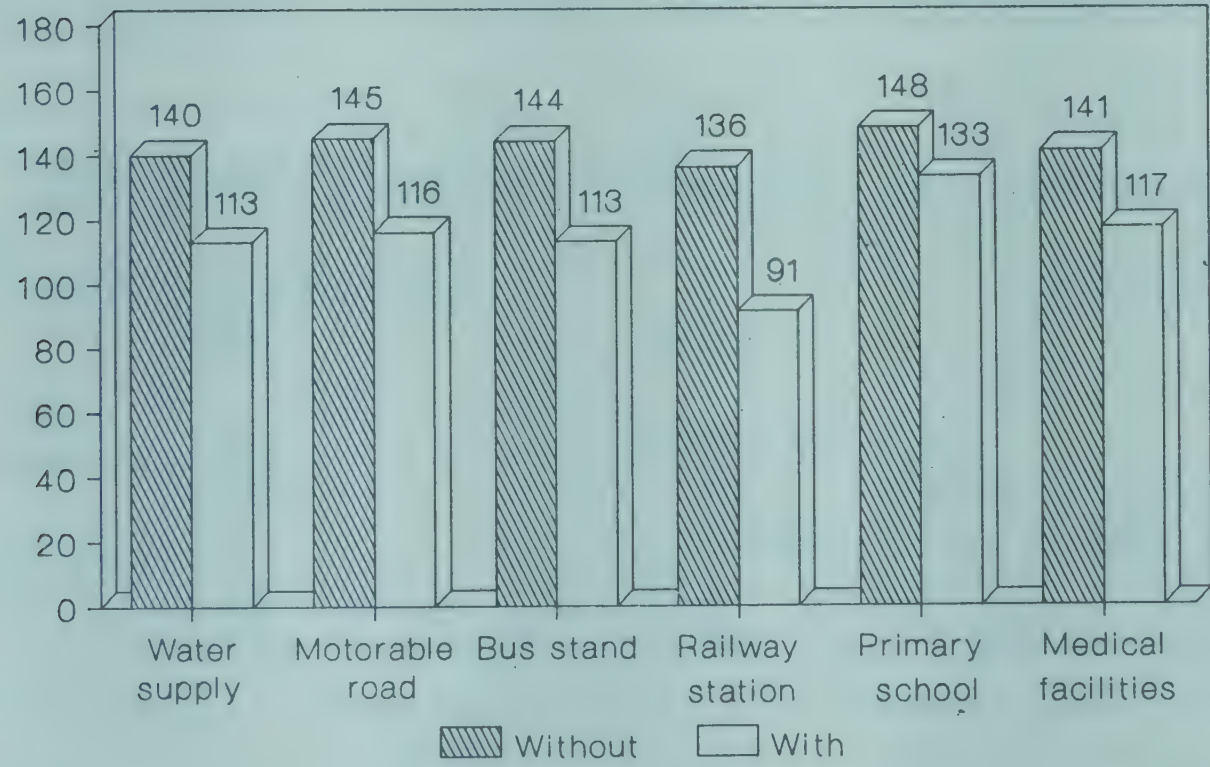


TABLE 2.11

Infant mortality expressed as an index of first parity for various groups 1984.

| Mothers | Parity | | | | | |
|----------------------------|--------|----|-----|-----|-----|-----|
| | 1 | 2 | 3 | 4 | 5 | 6 + |
| Educational level | | | | | | |
| Illiterate | 100 | 97 | 95 | 97 | 107 | 121 |
| Literates | 100 | 49 | 51 | 59 | 72 | 83 |
| Literate but below primary | 100 | 63 | 59 | 73 | 74 | 80 |
| Primary & above | 100 | 39 | 43 | 42 | 69 | 90 |
| Present age | | | | | | |
| Below 25 years | 100 | 85 | 88 | 94 | 133 | 70 |
| 25 years and over | 100 | 97 | 104 | 114 | 130 | 151 |
| Age at marriage | | | | | | |
| below 18 years | 100 | 82 | 80 | 83 | 95 | 108 |
| 18-20 years | 100 | 79 | 85 | 109 | 120 | 146 |

TABLE 2.12

Percent distribution of infant and child deaths by type of attention at death 1984.

| Type of medical attention | Age | | | |
|---------------------------------|-------|-------|-------|-------|
| | 0 | | 1 - 5 | |
| | Rural | Urban | Rural | Urban |
| Medical institutions | 30.22 | 56.84 | 42.26 | 62.29 |
| Trained medical practitioners | 11.48 | 13.74 | 16.23 | 15.59 |
| Untrained medical practitioners | 21.61 | 6.48 | 20.63 | 4.97 |
| Others | 36.69 | 22.94 | 20.68 | 17.15 |

Source : Table 2.5 to 2.14 : Registrar General

them occurring in the first week of life. On all accounts, it should be possible to approach this problem simultaneously at different levels: simple preventive interventions like administration of anti-tetanus vaccine to the pregnant mother, changes in practices related to child birth and infant feeding and immunization of infants, along with improvements in female education and general economic conditions. The summary results of a few field studies on the determinants of infant mortality in different states are given in the following paragraphs 2.6 to 2.13.

Variables of survival

2.6 Area-specific experience in controlling infant mortality provides varied lessons. In North Arcot district (Tamil Nadu) a rural

programme supported by a medical college found neonatal mortality declining faster than the post-neonatal rate, unlike the pattern generally observed. This was clearly on account of specific interventions during the antenatal period and at birth. The post-neonatal rate for females was higher than for males (56 against 35 over 1982-84), with at least four reported cases of female infanticide.

2.7 Studies in rural Ambala (Haryana) during 1980-83 suggest the need for vital events to be reported by several health functionaries rather than by just one village watchman. Neonatal tetanus and diarrhoea accounted for a high share of infant mortality; gender discrimination was noticeable in infant care during the post neonatal period. Pneumonia, low birth weight and

TABLE 2.13

Female literacy rate (1987-88) and infant mortality rate (1988) by state/union territory.

| State/Union Territories | Rural | | Urban | |
|-------------------------|-------|-----------------|-------|-----------------|
| | IMR | Female literacy | IMR | Female literacy |
| Andhra Pradesh | 87 | 20.8 | 63 | 50.5 |
| Assam | 101 | 44.9 | 67 | 68.1 |
| Bihar | 100 | 14.3 | 70 | 40.6 |
| Gujarat | 101 | 31.2 | 64 | 60.4 |
| Haryana | 96 | 26.8 | 64 | 57.6 |
| Himachal Pradesh | 81 | 38.3 | 41 | 67.5 |
| Jammu & Kashmir | 76 | 23.5 | 54 | 46.6 |
| Karnataka | 83 | 28.6 | 46 | 56.6 |
| Kerala | 30 | 73.0 | 22 | 79.6 |
| Madhya Pradesh | 127 | 15.6 | 83 | 54.0 |
| Maharashtra | 76 | 32.7 | 49 | 62.7 |
| Orissa | 127 | 26.9 | 70 | 53.5 |
| Punjab | 63 | 38.1 | 59 | 60.1 |
| Rajasthan | 111 | 9.8 | 67 | 40.9 |
| Tamil Nadu | 84 | 37.0 | 51 | 62.5 |
| Uttar Pradesh | 132 | 17.2 | 79 | 42.7 |
| West Bengal | 76 | 30.8 | 43 | 61.9 |

Note : Literacy percentage have been calculated on the total population inclusive of the population in age group 0-4 years.

Source : (1) Registrar General : Sample Registration Bulletin, December 1988.

(2) National Sample Survey, 43rd Round.

malnutrition were among the other causes of loss of life.

2.8 A project in rural Pune (Maharashtra) identified the following correlates of infant mortality: age of mother, parity, place of birth, attendance at birth, use of safe delivery kit and immunization of pregnant women against tetanus. It was possible to bring down the infant mortality by 36.5 percent in the project area during 1978-82 compared to a decline of only 8.3 percent for rural Maharashtra over the same period.

2.9 Field studies in villages in Uttar Pradesh (1981-83) revealed a complex set of mutually reinforcing conditions determining the risk of infant mortality, the rate of which hovered around 200. The effect of the physical and social environment on the chances of survival depended on the parents' economic resources, their knowledge of sources of support available to them and their skill in using these effective-

ly. Thus poverty (40-50 percent of the population were below the poverty line) plus inadequate food intake by women, particularly in the later months of pregnancy and high requirement of calories on account of hard physical labour create severe malnutrition, low haemoglobin levels, leading to a variety of complications including premature labour, high perinatal mortality and low birth weight. It was common to find infants in the care of 5-7 year old girls who themselves drank contaminated water, gave it to the infants and were surrounded by human, animal and other wastes. It was also observed that education of the mother per se had an impact on infant mortality and was more than a proxy for the socio-economic condition of the family. A mother with five to eight years of schooling made for a change in the attitudes in the family right from the first pregnancy and created a demand for modern health facilities. Schooling apart, experience in other loca-

tions, as in Rajasthan, has shown that lack of exposure to information and discussion sets up a mental block to the pursuit of awareness. This suggests the value of women's groups as a learning forum to absorb and apply knowledge and resources.

2.10 A 1979-80 study across nine districts in Gujarat pointed to the relevance of the set of biological, economic, socio-cultural, environmental and medical factors influencing infant mortality but also underlined the combined effects of high birth order and short birth interval on both neonatal and post neonatal mortality. The other variables having a bearing on neonatal mortality were: socio-economic status, housing in relation to environmental sanitation, mother's education and calorie intake, maternal age and gender of infant. The single major cause of neonatal death was prematurity, resulting mainly from maternal malnutrition, short birth interval and high birth order. In respect of the post-neonatal period, the relevant factors included post-natal care, socio-economic status, housing condition, maternal age and gender of infant plus infective and respiratory diseases aggravated by adverse environmental conditions.

2.11 Surveys in some districts of Rajasthan (1981) and Orissa (1982) focused on three variables: literacy of the mother, caste (scheduled tribe, scheduled caste or other) and standard of living of the household. Only 8 percent of all the mothers who had a birth during 1976-79 in rural Rajasthan were literate. In rural Orissa for the period 1977-81, the corresponding proportion was

19 percent. The infant mortality rate among literate mothers was lower than among illiterate mothers (69 against 142 in rural Rajasthan; 95 against 138 in rural Orissa). A little more than a tenth of mothers in both states belonged to Scheduled Tribes and about a fourth in Rajasthan, and 17 percent in Orissa, belonged to Scheduled Castes. The infant mortality rate was highest among Scheduled Tribes (165 in Orissa, 155 in Rajasthan), followed by Scheduled Castes (141 in both States) and lowest among higher caste mothers (113 in Orissa and 133 in Rajasthan). The infant mortality rates decreased in both the states with an increase in the economic status (measured by a standard of living index, its value ranging over the three categories – 150, 143 and 84 in rural Rajasthan, 149, 97 and 61 in rural Orissa). Landholdings in Rajasthan showed a similar relationship to infant mortality, with higher rates for those with little or no land. The use of maternal and child health care services was much higher in the urban areas of both the states than in the rural areas. Neonatal deaths accounted for half of all infant deaths in each state. Neonatal tetanus caused 20 percent of the infant deaths in Rajasthan and 8 percent in Orissa, nearly all of them in the early neonatal period.

2.12 The results of a sample survey in eight districts of rural Madhya Pradesh during 1983 suggest relative risks of various factors affecting infant mortality. While these conform as expected to the pattern emerging from the preceding paragraphs, it is seen that the risk of infant mortality following a birth interval of upto 12 months was

TABLE 2.14

Age-specific death rate for children 0-4 years, India.

| | Rural | | | Urban | | | Combined | | |
|------|-------|--------|-------|-------|--------|-------|----------|--------|-------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| 1970 | 55.5 | 61.0 | 57.8 | 32.3 | 32.3 | 32.3 | 51.7 | 55.1 | 53.0 |
| 1978 | 54.0 | 54.3 | 54.1 | 30.0 | 31.1 | 30.7 | 50.0 | 50.2 | 50.1 |
| 1984 | 44.2 | 48.2 | 46.2 | 22.6 | 23.8 | 23.2 | 39.5 | 43.0 | 41.2 |
| 1985 | 41.4 | 45.3 | 43.3 | 19.4 | 22.1 | 20.7 | 36.6 | 40.4 | 38.4 |
| 1986 | 38.6 | 43.3 | 40.8 | 20.3 | 21.5 | 20.9 | 34.7 | 38.6 | 36.6 |
| 1987 | 37.8 | 41.8 | 39.7 | 18.1 | 18.2 | 18.2 | 33.6 | 36.8 | 35.2 |

Source : Registrar General

about four times that following an interval longer than 12 months. The relative risk of infant death reduces with an increase in the length of the birth intervals 85 percent higher for intervals upto 18 months and only 34 percent higher for intervals upto 24 months. Women who bore children beyond the age of 39 years had a 34 percent higher risk of infant mortality. Mothers who did not receive antenatal care had a 74 percent higher risk of infant mortality than those who received some ante natal care. A meagre 9 percent of women received trained attention at birth.

Situation in slums

2.13 The infant mortality rate is, as a rule, lower in urban areas attributable mainly to better access to medical facilities. Declining somewhat erratically from 90 in 1970, it was 61 in 1988. Available urban data show that the gender differential noticed for the country as a whole seems to have disappeared—with the male rate possibly overtaking the female rate since 1979. What is more pertinent is the infant mortality rate in urban slums, a world apart from the rest of the town or city. A 1988 study of slums in six cities and towns of West Bengal suggests an infant mortality level of 102. Surveys over 1981-86 put the rate in Calcutta slums at 86, that of Delhi slums at 91 and of Bombay and Madras at 78 and 53 respectively. In almost all urban areas studied, the neonatal rate accounts for more than half the infant mortality rate. As in the case of the rural rate, the urban average rate varies widely among the states, between 22 in Kerala and 83 in Madhya Pradesh, as of 1988. In urban areas, the proportion of infant deaths to total deaths has ranged between 21 and 25 percent; that of child deaths (0-4 years) between 30 and 34 percent—somewhat lower in both age-groups than the rural proportions.

Trends in child mortality

2.14 There has been an appreciable decline over the years in the age-specific death rate of children below 5 years, as seen from Table 2.16. Significantly, the extent of reduction in the eight years 1978-86 has been 26.9 percent as compared to 5.5 percent in the preceding eight years.

Variations by gender

2.15 In the estimated figures of infant and child mortality rates at disaggregated (district) levels, there have been unexplained discrepancies within the Census (1981) data. For example, most studies show that in India, as elsewhere, more males are born; while, unlike in many countries, more females die prematurely. All the same, Census data, by district, show a large number of districts registering a lower female infant mortality rate than the male rate. It is possible that there is under-reporting of female child deaths. Also, not unexpectedly, there is considerable difference between the census figures and data from the Sample Registration System (SRS). The picture has somewhat been clarified recently (1988) by the Registrar General computing, on the basis of the Census data, estimates of the probability of a newborn dying between the ages of one and five years. Thus the four estimates, designated q1, q2, q3 and q5 represent the number of deaths per 1000 live births by ages 1, 2, 3 and 5 respectively. Accordingly q1 comes closest to the infant mortality rate and q5 to the under-5 mortality rate (defined as the number of children dying below 5 years per 1000 live births).

2.16 In terms of q2, which is considered a sensitive indicator, the major states having high child mortality are Madhya Pradesh (162), Uttar Pradesh (152), Rajasthan (149) and Orissa (148). Interestingly, in these states, the female child mortality rate q2 is lower than the male rate. However, by age 5, female mortality exceeds the male rate except in southern India, the tribal north-east and Himachal Pradesh in the north. Even in low mortality areas like Punjab and Delhi, female child mortality, q5, is higher than the male rate.

2.17 A significant pattern emerges in gender differentials in child mortality at the district level. Out of 402 districts (as of 1981), q2 for females is greater than that of males only in 142 districts, contrary to the expected effect of the prevailing socio-economic-cultural factors, which are known to operate in such a way as to pose an unnaturally higher risk of death to female children than to the male. However, as the

age of the child advances, the females face greater probability of dying: q3 for females is higher than for males in 172 districts; q5 is higher in 224 districts. Accordingly two categories of states emerge, providing some strategic pointers for action. first where q5 for females is higher compared to that for males—Bihar (30 out of 31 districts), Gujarat (14/19), Haryana (12/12), Madhya Pradesh (30/45), Punjab (12/12), Rajasthan (22/26) and Uttar Pradesh (53/56); and second, where q5 for females is markedly lower than that for males—Andhra Pradesh (20/23), Himachal Pradesh (10/12), Maharashtra (15/26), Meghalaya (4/5), Nagaland (6/7), Orissa (11/13), Tamil Nadu (11/16) and Tripura (2/3).

2.18 Again, the relation between child mortality and educational level of the mother comes through clearly in terms of q2 and q5. (See Table 2.15). Thus child mortality is about five times more among illiterate mothers compared to graduate mothers. Even the distinction between illiteracy and bare literacy seems to make a substantial difference to child survival.

2.19 Significantly, child mortality as measured by q2 is the highest for agricultural labourers (157) in the rural areas, followed by manual workers (147), cultivators (136) and non-manual workers (88). In the urban areas q2 among manual workers is 128 as against only 55 in the case of non-manual workers.

2.20 As seen so far in this chapter, the survival chances of the infant and the young child appear to have improved marginally though not decisively. How does this subdued trend translate to the health and nutrition status of the survivors? By the nature of the field of enquiry, and the present stage of overall development, upto-date answers in black and white are difficult to come by. Some indications can be recognized nevertheless.

Load of infections

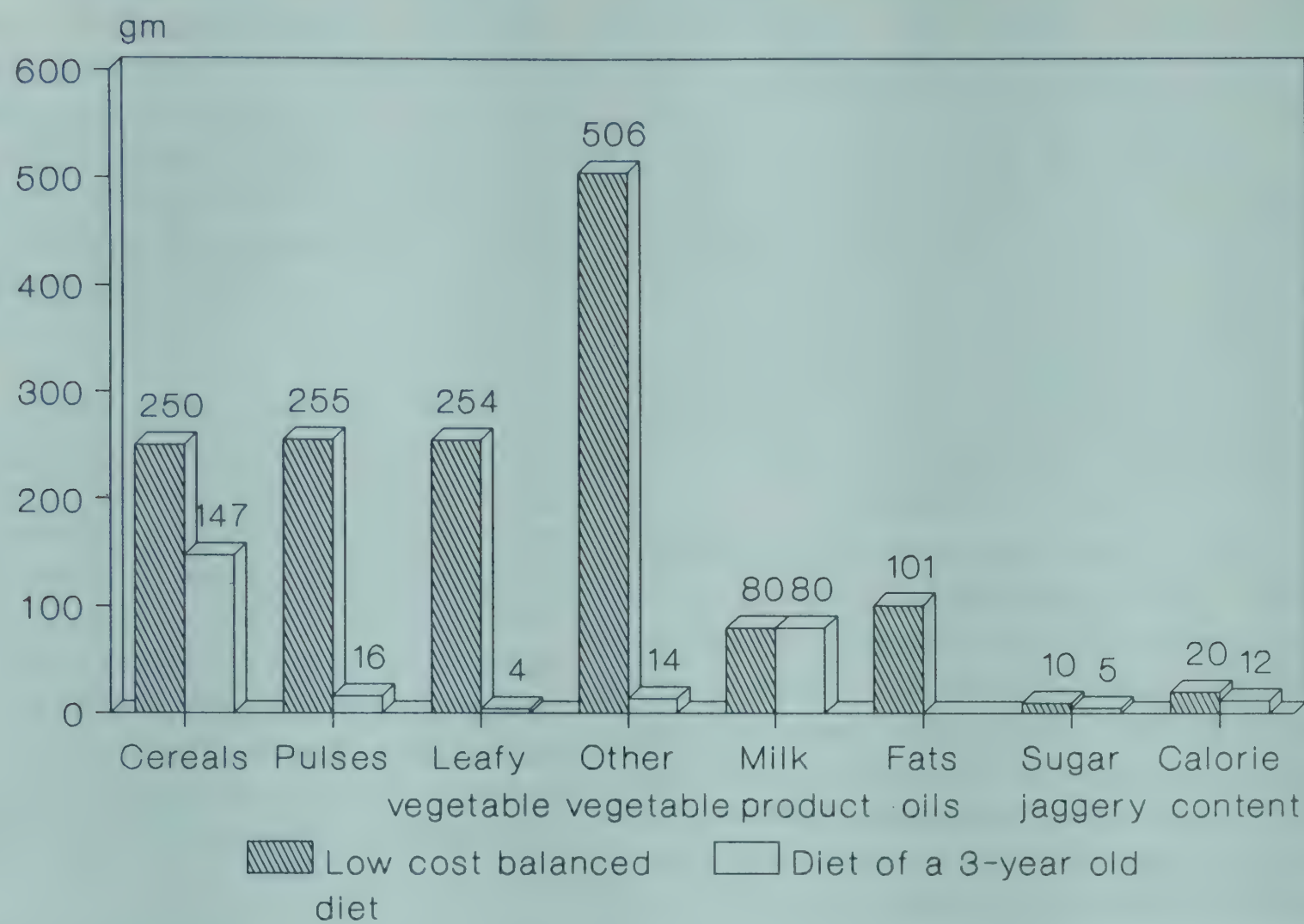
2.21 Two major factors are known to contribute to the present poor state of child health of which the prevailing order of infant and child mortality is but one indicator. These are undernutrition resulting from inadequate food intake and infections arising

from insanitary environment. A typical illustration of their combined effect, in the form of diarrhoeas and dysenteries, from repeated bouts of which hardly any young child from low income groups seems to escape. The oft-quoted estimate of deaths of children under 5 years from diarrhoea is one and a half million each year, which gives some idea of the far higher order of episodes in the course of a year roughly estimated at some 300 million. With each such bout the child undergoes a further decline in health and nutritional status, already marginal on account of the inadequacy of the diet. Usually, these infections start around the time the child has to be given supplements in addition to breast milk. Pending the assurance of a cleaner living environment and safe drinking water, the dangerous consequences of diarrhoea can be prevented by timely oral rehydration using appropriate, locally available fluids. These long-term and immediate responses are yet to become a social reality, as discussed under the health and allied service systems. (Part II).

2.22 An estimated 2.5 million infants (0-12 months) and 1.5 million children between 1 and 5 years die each year. Together with still births (variously estimated between 300,000 and 700,000) and maternal deaths (reckoned at 125,000), the tally of largely avoidable deaths adds up to an unconscionable level. Diarrhoeal diseases, respiratory diseases, tetanus and measles rank high as leading causes of child death. Prematurity and acute respiratory infections are estimated to be contributing to roughly half the infant deaths in the first month of life. Birth injuries too contribute significantly to the number of neo-natal deaths. According to one estimate, neonatal tetanus accounts for some 250,000 infant deaths a year, on the average. The health system is yet to gear itself fully to providing specific interventions to these known adversities facing child health. Started in 1978, the expanded programme on immunization (EPI) protected barely a third of the children by 1985. There has been a hopeful pick-up of pace since then which should make itself felt in the measurable future as disease reduction. The extent of negative effect of this variety of diseases, on child health and develop-

DIAGRAM 2.5

Calorie gap of a young Indian Child.



ment is seen from the fact that for each case of death, there are several episodes of illness, often repeating in the same child. Children have more than their share of several other diseases, prevalent widely or endemic to some pockets. Examples of the former type are tuberculosis, malaria, filariasis, leprosy, trachoma, encephalitis, dengue fever, meningitis, viral hepatitis, rheumatic and enteric fevers and worm infection. In the latter category are guineaworm, kala-azar, yaws and lathyrism (see Part II for prevalence). Information is scarce on morbidity patterns. All illness may not be fatal yet may seriously compromise a child's health and education. Several studies suggest that morbidity is higher among female than male children—respiratory infections, for example, in parts of rural Tamil Nadu; and diarrhoeal diseases in Punjab.

Nutritional foundations

2.23 Breast-feeding, strengthened in time by infant-weaning, is the nutritional sheet-anchor of child development. It is within the reach of all but adverse trends appear

from opposite ends of the socio-economic spectrum—the relatively recent inroads of commercial substitutes propagated by the urban middle classes; and the constraints in time and capacity faced by the mal-nourished overworked mother in the poor rural setting or in an insanitary urban slum. Thanks to tradition, breast-feeding is still the norm with most mothers, despite the erosive effects just mentioned. Also, available data show that lactation failures are rare. Indeed, but for the pregnancy- delaying effect of lactation on mothers, India's annual population growth might well have been higher than the rate of around 2.25 percent (1981). And but for the protective effect of breastmilk on infants, their vulnerability to infections like diarrhoea (already abnormal at around 3 episodes a year per young child) would have been even higher, in an environment where unsafe water and insanitary surroundings are the reason for some 80 percent of childhood diseases.

2.24 A study of infant feeding practices in the cities of Calcutta, Bombay and Madras, and peri-urban areas and small towns

TABLE 2.15

Calorie-protein adequacy

| State | Percentage Household | |
|----------------|----------------------|------|
| | 1975 | 1989 |
| Kerala | 34.5 | 37.2 |
| Tamil Nadu | 62.4 | 34.7 |
| | (1977-79) | |
| Karnataka | 80.4 | 73.9 |
| Andhra Pradesh | 61.4 | 63.3 |
| Maharashtra | 54.7 | 51.5 |
| Gujarat | 54.1 | 69.1 |
| Madhya Pradesh | 73.6 | 80.8 |
| | (1974-77) | |
| Orissa | 64.0 | 72.5 |
| Average | 61.5 | 59.6 |

Source : National Nutrition Monitoring Bureau

breastmilk. The disturbing finding was that 35-65 percent of the mothers did not (or could not) exclusively breastfeed their infants even upto four months. More sadly, 9-21 percent of the surveyed children went without any supplements to breastmilk even at the end of eight months. Meanwhile, commercial milk foods and cereal foods were being used as supplements, or exclusively, for a fairly large population of infants, 14 to 42 percent, even in cases where the family could hardly afford the cost. Many infants showed growth retardation, pointing to the lack of supplements to breastmilk from the fourth month, repeated episodes of infection and possibly inadequate quantity of breastmilk even in the early months. How representative are these findings of the situation in India as a whole cannot be confirmed, but they broadly reflect the inferences of observations and

TABLE 2.16

Nutritional status of children (1-5 years) in selected states by weight-for-age, percentage; (girls status shown in brackets).

| State | Year | Normal | Mild | Moderate | Severe |
|----------------|---------|------------|-------------|-------------|-------------|
| Kerala | 1975 | 4.5 (4.8) | 26.8 (31.8) | 52.7 (46.0) | 16.0 (17.4) |
| | 1989 | 8.8 (14.5) | 43.7 (38.9) | 44.7 (34.4) | 2.8 (2.2) |
| Tamil Nadu | 1977-79 | 4.5 (2.5) | 28.4 (27.7) | 53.4 (49.6) | 13.7 (20.2) |
| | 1989 | 7.1 (7.0) | 41.0 (38.5) | 46.6 (49.7) | 5.3 (4.8) |
| Karnataka | 1975 | 3.5 (2.4) | 23.0 (24.7) | 56.0 (55.9) | 17.5 (17.0) |
| | 1989 | 2.4 (2.7) | 31.2 (33.6) | 57.2 (53.4) | 9.2 (10.3) |
| Andhra Pradesh | 1975 | 2.6 (3.1) | 21.7 (21.7) | 54.0 (51.2) | 21.7 (24.0) |
| | 1989 | 4.8 (5.8) | 34.0 (32.1) | 50.7 (52.7) | 10.5 (9.4) |
| Maharashtra | 1975 | 1.2 (2.0) | 19.4 (19.0) | 53.0 (47.0) | 26.2 (32.0) |
| | 1989 | 5.4 (6.4) | 30.1 (34.2) | 55.3 (50.3) | 9.2 (9.1) |
| Gujarat | 1975 | 2.2 (3.2) | 25.6 (27.1) | 57.5 (53.1) | 14.6 (16.0) |
| | 1989 | 3.3 (4.7) | 27.2 (29.4) | 47.8 (43.5) | 21.7 (22.4) |
| Orissa | 1978 | 3.0 (3.0) | 35.8 (31.0) | 48.3 (51.0) | 12.9 (15.0) |
| | 1989 | 3.1 (2.8) | 24.9 (21.5) | 58.5 (61.7) | 13.5 (14.0) |
| Average | 1975 | 2.9 (2.8) | 25.5 (25.6) | 53.6 (51.2) | 18.0 (20.4) |
| | 1989 | 4.9 (5.7) | 34.1 (34.3) | 51.7 (50.9) | 9.3 (9.1) |

International (NCHS) standards

Source : National Nutrition Monitoring Bureau.

around them showed that the percentage of infants never breast-fed was around 1 to 3 percent. At the age of 12 months, 70-90 percent of the children were receiving

field studies. Clearly, based on a scientific understanding of the situation, responses must include maternal nutrition, exclusive breastfeeding for 4-6 months, introduction

TABLE 2.17

Percent distribution of children 1-5 years (Gomez scale) (selected states).

| | | Normal | Mild | Moderate | Severe |
|------|-------|--------|------|----------|--------|
| 1975 | Boys | 3.0 | 25.4 | 55.6 | 16.0 |
| | Girls | 2.8 | 25.6 | 51.2 | 20.4 |
| 1989 | Boys | 4.2 | 33.9 | 52.6 | 9.3 |
| | Girls | 5.7 | 34.3 | 50.9 | 9.1 |

Source : National Nutrition Monitoring Bureau

of supplements by four to six months, a judicious combination of habitual family foods like cereals, legumes, fruits and vegetables with continued breast-feeding for as long as possible; promotion of better hygiene, infant feeding practices and child care during infection and, not the least, regulating the use of commercial infant foods. At the present stage of the country's development, each of these aims is within reach.

Not enough to eat

2.25 Malnutrition, particularly of children has been described as the disease of the poor. Women and children appear to be more at risk than are the others, children facing the longer term consequences of malnutrition. According to data provided by periodic surveys by the National Nutrition Monitoring Bureau on nutritional status of rural and urban populations in ten states, a more or less stable, if also skewed, pattern is observed over several decades. Of the children surveyed only around 40 per cent had diets which could be considered adequate. A similar picture had been reported in the late 1950's as well. It can be estimated that around 45-50 million

children below 5 years subsist on a diet inadequate particularly in terms of energy. The average deficit in the diet of a young child is reckoned at about 350 calories daily, against an estimated requirement of 1250 calories for normal growth and development of a three year old. Typically, the gap can be expressed as in the diagram:

2.26 The additional cost of bringing about an improvement in the food intake of a young child must be reckoned not in isolation but as part of an overall improvement of the diet of the entire family. The cost will vary according to place, and changes in price. What is even more pertinent is that in nearly a third of the households surveyed, the family income was not sufficient to meet the minimum dietary requirement of its members and another third was just about the border line. See Part II for a discussion of distributive imbalances in the economy, in rural and urban areas.

2.27 A comparison of the average heights and weights of children, 1-5 years belonging to poor socio-economic groups, as observed in 1957 and 1978 show that the heights and weights in different age groups in the second study were no better than the retarded growth pattern in the previous

TABLE 2.18

Percent distribution of households according to calorie/protein adequacy (selected states)

| | P C | P C | P C | P C |
|---|------|------|-----|------|
| | - - | + - | - + | + + |
| 1975 | 18.9 | 18.9 | 0.7 | 61.5 |
| 1988-89 | 20.2 | 19.6 | 0.6 | 59.6 |
| P protein; C calorie; + adequate; -deficient. | | | | |

Source : National Nutrition Monitoring Bureau.

generation of children 20 years earlier. If anything, it appears to be somewhat worse.

2.28 Recent data from the National Nutrition Monitoring Bureau assist a possible comparison of nutritional grades of children 1-5 years between 1975 and 1989; Tables 2.18 to 2.21 refer to the seven major states studied. The proportion of children with severe malnutrition declined from 18.0 percent to 9.3 percent during the period. That of normal weight status increased from 2.9 percent to 4.9 percent. In all the states except Gujarat and Orissa, the extent of severe malnutrition declined. So too, the extent of moderate malnutrition, though only marginally from 53.6 percent to 51.7 percent. The prevalence of mild malnutrition however increased from 25.5 percent to 34.1 percent. The comparative status of boys and girls is given in Table 2.17.

2.29 The findings on malnutrition among children below 6 years attending the Integrated Child Development Services and from smaller field studies on one hand and the overall balance between population, food availability, prices and purchasing power on the other hand, together suggest that the nutritional status and growth pattern of the Indian child in the lower socio-economic strata may not have changed dramatically. Rather, the child receiving only two-thirds of its calorie requirement may show no outward sign of hunger and even look normal yet the child is too small for his or her age, has lowered resistance to

infection and is therefore prone to frequent illness. Studies show that a weight which is less than 60 percent of the "normal" is associated with evidence of functional incompetence. According to data from the National Nutrition Monitoring Bureau, about 17 percent of children below 5 years suffer from severe malnutrition linked to a weight deficit of over 40 percent; and nearly 45 percent of children of this age group are estimated to suffer from moderate malnutrition with a weight deficit ranging from 25-45 percent. Earlier NNMB data (1975-82) showed that the percentages of children with adequate calorie protein intakes were invariably and substantially lower than corresponding percentages for households.

TABLE 2.22

Vitamin A deficiency in children

| | Percentage |
|---------------------------|------------|
| Calcutta | 13.6 |
| Ranchi (Bihar) | 16.7 |
| Jodhpur (Rajasthan) | 13.2 |
| Gorakhpur (Uttar Pradesh) | 10.9 |

Source : Indira bai at al (Indian Pediatrics, 1988).

2.30 Recent studies have shown that rural poverty is unusually concentrated in the arid zone in the eastern states and among the scheduled castes. A 1981 sample of rural Bihar households in 12 villages spread over the six regions of the state showed that social-class differences in calorie intake

TABLE 2.19

Summary nutritional status of households in rural Bihar by social class (% distribution) 1981.

| Class | Normal | Wasted | Stunted | Acute | Number |
|----------------------------------|--------|--------|---------|-------|--------|
| Agricultural Labour | 43.7 | 31.0 | 15.1 | 10.2 | 270 |
| Agricultural Labour tied | 45.6 | 28.6 | 14.5 | 11.3 | 103 |
| Poor-middle peasant | 57.6 | 27.9 | 9.3 | 5.2 | 73 |
| Middle peasant | 75.4 | 17.1 | 4.9 | 2.0 | 90 |
| Big peasant | 57.3 | 31.1 | 8.3 | 3.3 | 243 |
| Landlord | 70.6 | 20.6 | 8.4 | 0.3 | 164 |
| Non-agricultural/ no activity | 45.2 | 31.4 | 11.8 | 11.6 | 49 |
| All | 53.5 | 28.4 | 11.3 | 9.8 | 992 |

Source : P.H. Prasad. et al, "The patten of poverty in Bihar" (World Employment Programme research).

TABLE 2.20

Comparision of nutritional status (by weight-for-age estimations) of preschool children in non-ICDS populations in 1976 and 1985 and in ICDS population in 1985.

| Nutrititional status (by weight-for-age) | Non-ICDS population (%) | | ICDS population in 1985 (%) |
|---|----------------------------|---------|--------------------------------|
| | In 1976 | In 1985 | After 3-5 years |
| Normal and grade I malnutrition | 47.2 | 69.5 | 74.5 |
| Grade II malnutrition | 27.0 | 19.7 | 17.3 |
| Grade III and IV malnutrition | 19.1 | 8.4 | 6.4 |
| Not recorded | 6.7 | 2.4 | 2.1 |
| Sample size | 27726 | 20605 | 22893 |

Note : ICDS follows the Indian Academy of Paediatrics (IAP) classification, as shown below:

| | |
|-----------------------|--------------------------|
| < 50% weight for age | : Grade IV malnutrition |
| 51-60% weight for age | : Grade III malnutrition |
| 61-70% weight for age | : Grade II malnutrition |
| 71-80% weight for age | : Grade I malnutrition |
| > 80% | Normal |

Source : Central Technical Committee (ICDS)

were more pronounced than either regional or seasonal differences. Table 2.23 shows a sharp decline in nutritional status from small peasant to landless labour. Studies in Andhra Pradesh and Maharashtra point much the same way, with 25-45 percent of children in the 1-3 year age group—in all

villages and among all social groups, rich and poor, and in both lean and surplus seasons—having energy intakes of less than 50 percent of the recommended daily allowance.

2.31 The ICDS programme has so far been less successful in reaching under 3 year

TABLE 2.21

Nutritional status of preschool children (0-6 years) in ICDS project areas.

| State | Number of Proj- ects | Child- ren | Nutritional status (2-<6 years children) | | | | | Not recorded |
|----------------|----------------------------|---------------|--|------------|-------------|--------------|-------------|-----------------|
| | | | Normal | Grade I | Grade II | Grade III | Grade IV | |
| Andhra Pradesh | 5 | 2626 | 22.4 | 32.2 | 25.6 | 6.5 | 1.4 | 11.8 |
| Haryana | 5 | 1517 | 52.2 | 19.4 | 11.4 | 2.9 | 0.2 | 13.9 |
| Karnataka | 4 | 1985 | 32.7 | 35.1 | 18.7 | 4.1 | 0.4 | 9.0 |
| Kerala | 3 | 1816 | 47.9 | 28.0 | 12.1 | 1.7 | 0.2 | 10.1 |
| Maharashtra | 4 | 1647 | 23.6 | 32.4 | 23.3 | 7.4 | 0.6 | 12.6 |
| Orissa | 4 | 2112 | 25.9 | 42.9 | 24.6 | 2.1 | 0.5 | 4.0 |
| Punjab | 2 | 1044 | 54.1 | 26.3 | 10.0 | 2.9 | 0.0 | 5.5 |
| Rajasthan | 2 | 1328 | 30.2 | 26.1 | 23.6 | 10.9 | 7.5 | 1.6 |
| Tamil nadu | 4 | 2610 | 36.8 | 37.7 | 16.4 | 3.2 | 0.8 | 5.1 |
| Uttar Pradesh | 7 | 4055 | 39.2 | 18.8 | 14.7 | 5.1 | 1.5 | 20.6 |
| West Bengal | 4 | 2322 | 30.9 | 36.0 | 22.0 | 6.3 | 1.5 | 3.3 |

Source : 1987-88 ICDS Annual Survey

TABLE 2.23

Incidence of Bitot's spot among children, in rural areas (percentage).

| Year | Children 1-5 yrs. | Children 5-14 yrs. |
|---------|----------------------|-----------------------|
| 1975 | 0.6 | 1.7 |
| 1976 | 1.4 | 4.1 |
| 1977-78 | 1.4 | 4.2 |
| 1979 | 0.9 | 1.3 |
| 1980 | 1.5 | 3.1 |
| 1981 | 2.7 | 5.1 |
| 1982 | 1.8 | 3.1 |

Figures indicated are the median values of the prevalence levels in the states surveyed by NNMB.

Source : Rao, N. Pralhad and Gowrinath, S. J. National Institute of Nutrition, 1985.

children than 3-6 year olds. It has been able to reach socially backward groups and remote areas, for example, the scheduled castes and tribes. Recent (1987- 88) data on nutritional status of children (0-6 years in ICDS project areas) are given in Table 2.25. Low prevalence of severe malnutrition has been reported from Andhra Pradesh, Haryana, Karnataka, Kerala, Maharashtra, Orissa, Punjab, Tamil Nadu, Uttar Pradesh and West Bengal. Also a review of studies on nutritional impact of ICDS shows a lower percentage of malnutrition among pre-school children in ICDS compared to non-ICDS areas: 23.7 percent against 28.1 percent in moderate and severe cases. Findings of monitoring by the All India In-

stitute of Medical Sciences confirm similar trends—traceable to the consequence of nutrition and health components of the programme.(Table 2.23).

2.32 'Development' does not necessarily solve the problem of disparity and deprivation. For instance, while the villages around Ludhiana in Punjab are in apparent prosperity (only 11 percent of the rural families in the state are below the poverty line), the infant mortality rate has not come down and the number of low birth-weight babies has increased. This has been attributed to the following factors: The fruits of development are enjoyed by the landowning two-thirds of each village, who do not belong to the scheduled castes. As for the poor, development has increased their work opportunities, their incomes, the total amount of food consumed by the family and the state of nutrition of the male wage-earners and even the older children, but not for the other children and mothers who have more work, more food to cook and fewer opportunities for rest. It is these children—50 percent of the girls and 20 percent of the boys under five years—who accounted for the high mortality and malnutrition rates in the otherwise prosperous rural Punjab.

2.33 It had been established by earlier studies by the National Institute of Nutrition that the primary dietary deficiency underlying protein-energy malnutrition in India was not that of protein but that of calories. While the daily protein intake ranged from

TABLE 2.24

Percent prevalence of anaemia among boys and girls in different age groups, 1981.

| Location | Type of sample | 1-6 years | 6-14 years | | 14-25 years | | 25-44 years | | 45+ years |
|---------------------|----------------|------------|------------|-------|-------------|-------|-------------|-------|-----------|
| | | boys+girls | boys | girls | boys | girls | men | women | men+women |
| Hyderabad and Delhi | Rural | 64.8 | 57.7 | 65.9 | 44.4 | 67.1 | 34.1 | 68.9 | 48.8 |
| | | (526) | (568) | (459) | (302) | (295) | (425) | (335) | (637) |
| Calcutta | Rural | 92.8 | 92.9 | 97.1 | 90.3 | 96.7 | 80.3 | 96.9 | 90.1 |
| | | (400) | (571) | (561) | (350) | (338) | (350) | (426) | (393) |
| Madras | Urban | 22.1 | 11.6 | 15.0 | 9.3 | 20.8 | 3.5 | 26.0 | 18.9 |
| | | (212) | (297) | (379) | (118) | (225) | (141) | (338) | (215) |

Source : National Institute of Nutrition India 1982 (Nutrition Foundation of India Special Publications Series 5)

TABLE 2.25 Dietary availability of iron.

| State | Average dietary iron intake per caput per day (mg) | Year of study | Number of districts surveyed |
|----------------|--|---------------|------------------------------|
| Kerala | 20.5 | 1975-82 | 11 |
| Tamil Nadu | 27.09 | 1975-82 | 19 |
| Karnataka | 44.0 | 1979-82 | 22 |
| Andhra Pradesh | 28.5 | 1975-82 | 20 |
| Maharashtra | 33.6 | 1975-82 | 22 |
| Gujarat | 27.5 | 1975-82 | 18 |
| Madhya Pradesh | 28.6 | 1975-82 | 9 |
| Orissa | 31.3 | 1975-82 | 14 |
| West Bengal | 31.4 | 1975-82 | 17 |
| Uttar Pradesh | 27.8 | 1975-82 | 24 |

Source : Natrition Nutrition Monitoring Bureau data.

2.8 g/kg body weight to 1.7 g/kg, the daily calorie intakes were 70-75 kcal/kg against the norm of around 100 kcal/kg. Recent data (1989) from the National Nutrition Monitoring Bureau show negligible change in the pattern of average intake of calories and proteins. It has been estimated that the percentage of children deficient in calories is far higher than that of children deficient in protein. And if the food intake were raised to meet the calorie requirement, the protein needs would have more or less been met. The nutritional challenge then is one of equitable distribution of the available food resources, to reach an adequate quantity of their habitual cereal-legume-vegetable foods to children under 5 years, with appropriate home-based techniques to reduce the bulk and increase the calorie density.

Nutritional blindness

2.34 Nutritional blindness and keratomalacia arising mainly from vitamin A deficiency has been widely reported among children in different parts of India. According to the National Institute of Nutrition, 5-7 percent of children 1-5 years (around 5-6 million children) annually suffer eye damage due to vitamin A deficiency. Some among them have corneal lesions leading to blindness; reliable estimates of their number are not available. Percentage prevalence of xerophthalmia in urban slums, rural areas and tribal villages, are 20.6, 18.8 and 17.0 respectively, as derived from ICDS data.

Another study puts the prevalence of vitamin A deficiency of various types and severity in different parts of the country in the range of 17.6 to 34.1 percent, with the prevalence rate in some Indian cities as in Table 2.22 (page 36).

These estimates are at some variance with countrywide surveys by the National Institute of Nutrition which gives the range as 5 to 7 percent.

2.35 Together with protein energy malnutrition, which is common among the poor, vitamin A deficiency aggravates the ill effects, particularly the propensity to blindness. Acute infective illnesses, including diarrhoea, measles and respiratory infections predispose children to vitamin A deficiency leading to blindness. Children in drought prone areas and urban slums seem to run this risk more than others.

2.36 A large scale field trial recently in Tamil Nadu suggests that weekly supplements upto the recommended daily allowance of vitamin A given for a year, could bring about 56 percent reduction in overall child mortality. The effect was greatest for children between 12 and 17 months. The supplement had little impact on child morbidity as such. (Aravind Eye Hospital, Madurai).

2.37 A recent report from the National Institute of Nutrition in India has however indicated that mortality difference was not significant between the groups who had received Vitamin A and those who had

TABLE 2.26

Incidence of neonatal chemical hypothyroidism (NCH) in endemic and non-endemic areas in India.

| Area of study State | Goitre Prevalence | Cretinism Prevalence | Urinary Iodine Follis Groups* | Incidence of NCH (per thousand) |
|------------------------|----------------------|-------------------------|----------------------------------|---------------------------------------|
| Deoria (Uttar Pradesh) | 80% | 3-5% | V | 133 |
| Gorakhpur " | 70% | 0-4% | V | 85 |
| Gonda " | 60% | 0-4% | V | 75 |
| Delhi | 29% | nil | II | 6 |
| Kerala | 1.3% | nil | NA | 1 |

* Group II, none with urinary iodine less than 25µg/g creatinine; Group V, more than 50% with less than 25µg/g

Source : All India Institute of Medical Sciences. (Kochupillai et al, Bulletin of WHO, 1986).

TABLE 2.27

Distribution of children by Intelligence quotient in the study population and control population*

| Age group (years) | No. of children studied | No. of children with IQ of : | | | | |
|--|-------------------------------|------------------------------|-------|-------|--------|---------|
| | | <69 | 70-79 | 80-89 | 90-109 | 110-119 |
| 6-10 | 10 | 2 | 3 | 4 | 1 | - |
| 11-16 | 50 | 12 | 17 | 11 | 9 | 1 |
| Total | 60 | 14 | 20 | 15 | 10 | 1 |
| Percentage in study population | | 23.3 | 33.3 | 25 | 16.7 | 1.7 |
| Percentage in normal population* | | 2.2 | 6.7 | 16.1 | 50.0 | 16.1 |

* Age-matched from normal (not iodine-deficient) India village.

Source : AI India Institute of Medical Sciences, (Kochupillai, et al)

received the placebo. Mortality rate among the children in the study areas was lower (5/1000) than the national average (20/1000). Further studies are awaited for understanding the relationship between vitamin A deficiency and child morbidity and mortality.

2.38 Meanwhile, the National Prophylactic Programme for Prevention of Blindness, administering 200,000 IU at six-monthly inter-

vals to children 1-5 years has been on for several years now, with uneven results. The prophylactic use of synthesized vitamin A was intended perhaps as a transitional measure, until optimal use of B-carotene-rich foods like green leafy vegetables could be routinely re-introduced in the traditional diet of children from low income groups.

2.39 According to the results of surveys done by the National Institute of Nutrition in

rural areas in selected states, the average daily dietary intake of vitamin A (retinol) ranged between 252ug in 1975 to 352ug in 1989 against the recommended daily allowance of 750ug.

Iron deficiency anaemia

2.40 The widespread prevalence of anaemia among women was noted in the preceding chapter (paragraphs 3.3 and 3.4). These deficiencies affect children with long term consequences to their physical and mental growth, learning capacity and productivity. According to sample studies by the National Institute of Nutrition, anaemia is extensively prevalent (Table 2.24). Data presented by M S University, Baroda (1988) show that 63- 71 percent of children 1-6 years suffered nutritional anaemia on a national scale over 1977-83, 76 percent in Gujarat 1980- 84 and 95 percent in West Bengal, 1981.

2.41 Though the average Indian diet adequately provides 30 mg of iron and 550 mg of calcium daily, the bio-availability of either has been found to be low on account of high phytate content of the diet (arising from the predominance of cereals). As discussed in paragraph 1.5, a review of the performance of the National Programme for Prevention of Nutritional Anaemia showed uneven results. A renewed effort with sharper focus on pregnant women and young children is being launched.

2.42 The data collected by the National Nutrition Monitoring Bureau on the iron availability in the common diet in different regions in the country are shown in Table 2.25. These data show that the average iron intake per person countrywide is not low, at 20-40 mg per day, against the recommended daily allowance of 28 mg. In light of this, the major constraint in iron nutrition in India may not be deficient consumption, but possibly, poor absorption of ingested iron. Of the various known factors that interfere with iron absorption, the most important in the Indian context seems to be the presence of phosphates, phytates and tannins which are plentiful in the cereal-legume-based Indian diet. Coffee and tea, commonly consumed by both rich and poor, are also known to depress iron absorption. Clearly, alternative approaches

to combating iron deficiency are called for, like diversifying and improving the daily diet.

Hazards of iodine deficiency

2.43 Until a few years ago, the problem of iodine deficiency was understood to be no more serious than an enlargement of the thyroid gland, seen as a swelling at the neck, on account of the gland over-exerting to compensate for the lack of iodine in the body. Relatively recent research in India and elsewhere has uncovered two major facts: first, nutritional iodine deficiency is among the most widespread of human malnourishments, with an estimated 800 million people at risk in developing countries on account of a variety of ecological, geoclimatic, socio-cultural and economic factors. (see Part II); second, a functional decompensation seems to occur in the majority of seriously affected persons in endemic areas of environmental deficiency of iodine. According to the latest available data, some 150 million people in various parts of India are at risk, of whom around 40 million suffer from varying degrees of disorder. The consequence to children, of this situation, is widespread and long-term – arising from thyroid failure at the foetal and neo natal stages, (as found by assay of cord-blood samples). Population-based studies in the sub-Himalayan region and elsewhere indicate the incidence of neonatal chemical thyroidism varying from 6 to 133 per thousand births in the endemic regions, as against one per thousand in non-endemic regions of India.

2.44 When thyroxine is deficient, normal growth and development diminish, the metabolic process slows down, energy and activity are reduced. Of this, cretinism, not uncommon in endemic areas like Uttar Pradesh and Bihar, is only the tip of the iceberg of extensive brain damage occurring among newborns, on account of maternal deficiency in thyroxine. Thyroxine deficiency early in life, even if transient, can cause permanent damage to the child's development process, expressing itself as varying degrees of brain dysfunctions, low intelligence quotient, hearing and speech defects, poor motor skills and impaired cognitive functions – perpetuating the

socio-economic backwardness clearly evident in endemic areas. See Tables 2.26 and 2.27. As will be seen from Table 2.27, nearly a fourth of the surveyed children had sub-normal intelligence and less than a fifth had a mental level needed to make the most of schooling. This raises the serious question of educability of children in iodine-deficient areas. The specific major response to this social condition is the progressive use of iodised salt, as discussed in Part II.

2.45 There is evidence of marked deficiencies in children of vitamins essential for growth and functional maturation, apart from vitamin A noted earlier. Prevalence of vitamin D deficiency has been noted in young children by area-based studies—for example, 39 percent in Ajmer city slums (Rajasthan), 23 percent in Hyderabad slums (Andhra Pradesh) both reported in 1979. Children born of vitamin D deficient mothers are reported to have low birth weight. The deficiency also affects growth of bones and a variety of other tissues. Such information as available, specially on the young child, calls into question the assumption that vitamin D deficiency should be rare in a country with an abundance of sunlight.

2.46 Besides vitamins A and D, the B group of vitamins and vitamin C play an important role in body metabolism. Not much is known about possible deficiency in Vitamin C. Some of the clinical manifestations of the deficiency of B group vitamins are non specific, but several states have reported varying prevalence in different parts of India. A multi-centre study by ICMR showed that there was an increase in the prevalence rate from 1.6 percent in the age group 1-2 years to 7.5 percent in the 4-5 years group, with an average prevalence of 5.2 percent for the pre-school population. Signs of B-complex deficiency were seen in the following order of frequency: Vellore (14 percent), Hyderabad (7.6 percent), Pune (3.3 percent), Calcutta/Bombay (2.1 percent) and New Delhi (1.6 percent). There is evidence that B12 and folic acid deficiency is widely prevalent among anaemic and malnourished children in India, reported levels being around 60 percent. It is possible that vitamin B group deficiency contributes significantly to morbidity of young

children, also predisposing them to infection and subduing their learning capacity.

2.47 Recent reports (1989) from the National Nutrition Monitoring Bureau indicate that the average intake of vitamin B1 (thiamin) was above the recommended level in Karnataka, Maharashtra, Gujarat and Madhya Pradesh but the diets did not provide adequate amounts in Tamil Nadu, Kerala, Madhya Pradesh, and Orissa. The average intakes of other B vitamins such as Riboflavin and Niacin were below the recommended levels, as it was in 1975.

Childhood disability

2.48 Childhood disability is a commonly observed fact of life in India, but reliable data are scarce on the prevalence of various types of disabilities—locomotor, visual, hearing, speech, mental or other. A 1981 national sample survey of disabled persons (all ages) estimated the total number of the disabled at 12 million (below 2 percent of the then population): locomotor 5.43 mn, visual 3.7 mn, hearing 3.02 mn, speech 1.75 mn. The difference in the prevalence rates in the 0-14 age group (as compared to 40 years and above) was most pronounced in visual disabilities followed by hearing, locomotor and speech disabilities. Among children, locomotor disabilities seemed most prevalent, with communication and visual problems coming next in that order. There are reasons to infer that the above are underestimates. For example, a more recent estimate puts the total number of the visually disabled at 9.5 mn persons. As noted in paragraph 2.34, the number of children going blind each year would be large. About 3 to 5 percent of India's population suffer from various degrees of mental retardation. The incidence of mental disability during childhood appears significant and the number of mentally retarded children is estimated to be not less than 2 million.

2.49 Given this situation, the extensive need for curative and rehabilitative facilities is obvious. But the actual availability of such services is meagre. In the case of mentally retarded children for example, it is as low as 0.2 percent of the need. Clearly, the cost of not preventing disability will be

unbearably high in a situation of limited financial and other resources. And, the cost of prevention can be brought down by involving all available systems such as of health, childhood care and schooling, in successive levels of preventive effort, early detection and prompt professional attention to limit the degree of disability in those cases where it cannot be wholly avoided. An allied concern is to integrate disabled children in the school system rather than segregate them from it. Initiatives in these directions are beginning to take root.

The case for caring

2.50 The picture as emerging from the foregoing paragraphs of the situation of the young Indian child in relation to survival, growth and development calls for greater attention. There is another dimension to child life which suffers from relative inattention even in discussion. This relates to the care available to the child at a time when he or she needs it most. It is estimated that women from the low income groups, mainly landless agricultural labour are able to devote only around half an hour per day on caring for children and other household chores. One study found that 60 percent of children below six years in a tribal area, where all men and women sought work as labourers, were taken care of by their siblings, often their elder sisters. Further, in about 15 percent of the cases, the caretakers were themselves below the age of six. The situation becomes worse in traditional source areas of migrant male labour where women have to function as providers, home makers and often as heads of households, with little time for their young children. Recent trends, including the spread of urbanisation, have rapidly increased the proportion of nuclear households, consisting of the husband, wife and unmarried children. In some poor communities, as many as a third of the households are headed by women. The poorer the family, the harder and longer the members have to work, for sheer survival; and the lack of time for attention to the young child becomes acute.

2.51 A rough estimate puts the number of working mothers of children below five years at around 14-15 million, mostly belonging to low income groups in the un-

organized sector. The number of such children needing child care, but not necessarily receiving it would be of the order of 32-33 million. Clearly, child care services can be made a focal point for improvements in health, nutrition, education, training economic sustenance, fertility control and participation of women—apart from the benefits accruing to the children themselves, a large number of whom would otherwise experience an unsupervised and impoverished childhood.

2.52 Women in the organized sector comprise below 10 percent of the female work force. Of these, one half is in the service sector and not covered by statutory provision regarding maternity benefits and child care facilities which are expected to be provided in the manufacturing sector. The total number of children receiving day care in the organized sector is likely to be around 50-55 thousand. Evaluations indicate that barring exceptions, the quality of service is poor, when not dismal. Except in one or two states, even the trade unions are not yet alert enough to this issue, one reason perhaps being their domination by males. Some 10,000 creches, subsidised by government, are reportedly functioning in nine educationally backward states in urban and semi-urban areas catering to around 260,000 very young children. Their distribution is uneven across states, but the total number is so small as to make little difference to the overall situation. The middle class working woman, whose need for day care is also real, has a choice between the day care offered by individuals in their homes or services offered by some institution. The former seems to be the more common arrangement. In respect of the poorer groups the anganwadi under the Integrated Child Development Services currently reaching around 12 million children under 6 years and the balwadi run by a variety of organizations partly meet these social needs mostly in relation to children over three years. The situation during the pre-school and primary school age is discussed in the next chapter, with particular focus on learning opportunities and attainments.

2.53 Where facilities are available, the service is mostly in the nature of custodial

care, rather than of an environment which stimulates the child's mind and supports physical growth. The possibility of laying the foundations of child development through organized services at the community level appears inadequate. The damage done by nutritional deficiencies and ill-health has been noted earlier. But these are harsher and at times irreversible when they occur early in life. The extent of permanent alteration that inadequate nutrition leaves on total development – on character, intelligence, social behaviour and physical ability – is not yet fully assessed. But it would be safe to infer that the earlier

malnutrition begins, the more serious are its consequences.

2.54 While the family provides the most effective and economical surroundings for fostering child development in conditions of social, nutritional and environmental deprivation, families have to be helped to care for the young child – through support for health care, nutrition, shelter, education and employment. Simultaneously, the possibility of every child having an equal chance, at the start of life, of attaining his or her potential needs to be advanced through community-based programmes of early childhood care.



Chapter 3

The Learning Years

Firming the Foundations

3.1 How well do young children grow up through the essential process of early stimulation and learning and playing opportunities? And how truly are the foundations laid for development: intellectual, cognitive, social, emotional, physical and language? Documented information on child rearing practices in different parts and sub-cultures of India is meagre and dated, yet enough is known to infer that the majority of children of preschool age are not receiving enough stimulation and support in their environment to liberate their development potential to an optimal level, either in their homes, their communities or child-care institutions. This applies to the majority of the poor in both traditional rural society as

well as those in marginalised urban communities suffering the effects of rapid modernization. True, government-sponsored programmes like the Integrated Child Development Services (ICDS) are focused on the deprived segments of the population, but it is also a fact that the more socio-economically disadvantaged the community, the fewer the learning opportunities to the child.

3.2 The preceding chapters traced the background and the beginnings of the cumulative process of development of child life, each stage having its own specific needs to be met. During infancy and the years immediately following, care and attention is necessarily home-based, from the

mother mainly. Thereafter, how does the toddler relate to the surroundings and with what effects on his or her "inner world"? Some indications in terms of nutrition and health status, of how well the young child is physically and mentally equipped for the learning process were noted earlier. The concern in the present chapter is the differential access to socializing and learning opportunities of one kind or another, the factors that promote or inhibit them, and the overall yield of the foundational years with the help of such attention and facilities as are available in the home, community or neighbourhood learning centre.

Potential learners

3.3 First, a look at the magnitude, the sheer numbers of potential learners. Going by the official "medium projection" of a total population of 820 million by 1990, the number of children of the preschool age, 3-6 years, would be over 60 million; and those of the primary school age, 6-11 years, would exceed 100 million.

Child rearing practices

3.4 A few studies exist of child rearing practices in communities in different parts of India, which give glimpses of the actual situation of child life. There are, however, far too many variables at play, differing with location, culture and socio-economic conditions, to permit generalised inferences across the country. For instance, among land-owning small-peasant Rajputs (the traditional Hindu 'warrior' class) in the north of the country, the role of man in the care of the young girl or boy is negligible. The mother retains the responsibility for

looking after her young child, but there is little of deliberate creative stimulation. Educational toys are rare and the child spends the early years as a passive observer of the busy courtyard life. No systematic attempts are made to stimulate, until the child can walk and say a few words. During the gradual transition from infancy to primary school (at which not all children are enrolled and fewer stay on), the child is expected to learn more through observation and imitation rather than from verbal instruction. Considered a baby, the pre-school child continues to sleep with the mother. Children are usually bathed by the mother or older sister until they are five or six years old. Yet cleanliness is less valued for them than for adults. Praising children in their presence is avoided, lest they become disobedient. The use of tangible rewards of good behaviour is rare but not scolding including threat of physical punishment which, however, is less often given. The pre-school child is free to play most of the time, but boys and girls seldom join forces. But all too soon, they are asked to work, the boys in the farm and the girls in the home, not so much to develop a sense of responsibility as to get physical work done. Obedience is stressed as a virtue, but somewhat more for girls, and bravery for boys. Adults do not overtly show their affection for children of any age. The authoritarian hierarchy of the social structure is mirrored in the family.

3.5 A somewhat different picture emerges from a relatively poor fishing and farming community (predominantly Hindu with sizable Christian and Muslim segments) on the west coast of Karnataka in the south. Here, the psycho-social definition of infan-

TABLE 3.1

Child population projections (by age, in millions)

| Year | 1 | 1-3 | 3-6 | 6-11 | 11-14 | < 15 Years |
|------|------|------|------|-------|-------|------------|
| 1971 | 19.0 | 35.1 | 50.3 | 75.6 | 40.0 | 230 |
| 1981 | 19.6 | 39.0 | 57.5 | 90.6 | 49.8 | 272 |
| 1986 | 23.4 | 42.8 | 58.0 | 91.6 | 55.1 | 288 |
| 1991 | 20.8 | 42.4 | 68.3 | 98.8 | 54.2 | 298 |
| 1996 | 21.9 | 42.5 | 61.9 | 101.7 | 60.4 | 308 |
| 2001 | 20.6 | 41.2 | 61.8 | 102.4 | 60.7 | 307 |

Source : Registrar General

cy seems to extend to the 4th or 5th year of life by when the capacity for reasoning, cognition and judgement gets rooted. This period is marked by a continuous and deep attachment to the maternal figure. This is not an exclusive relationship, given the domestic environment with the presence of other potential care-givers. More than in the case of the northern Rajputs, the child-mother intimacy is expressed by their physical proximity. During the day, even as the mother performs her daily chores, it is common to see the 'infant' astride her hip. Continuously held, cuddled and talked to, the child's exposure to the world, through emotionally significant communication, is mediated primarily by the maternal relationship. This dependence is seen for example in breastfeeding on demand till the 2nd or 3rd year of life, irrespective of the quantity of breastmilk available. The detachment from the maternal bond is necessarily slow and the development of an independent personality may not be a sharp feature in this model of child rearing. Motor, cognitive and language development proceed at their own pace. The demands placed on the child to actively explore the environment are minimal. What is emphasized is the avoidance of frustration, and enjoyment, even in an austere setting, of the mutual relationship between the child and the immediate environment. The positive aspects of the child's behaviour are emphasized, the negative elements are tolerated affectionately rather than curbed with a heavy hand. There is no attempt to channel and mould the child's development.

3.6 This picture is at some variance with the findings of a study of a traditional (Muslim) weaver community in Varanasi, Uttar Pradesh, focused on 'competence' in child development, as defined in terms of self-reliance, responsibility and achievement. Unlike in most communities, the gender differentiation starts very early in the lives of children, and strongly sets the direction of their experiences in the future. Living in a fairly closed and restricted environment with little else to do, the girls imbibe the craft skills by observing their mothers at work. Around the age of five, the girls start attending a neighbourhood madrasa (parochial school) where the environment is relaxed with little emphasis on formal

learning, except for a short-lived religious instruction. Girls are usually betrothed at puberty. The boy is viewed as an asset, is protected from the 'evil eye' by an amulet and is initiated by the age of three or four into the craft of weaving. He is constantly exposed to reciting prayers five times a day. Work as apprentice, under a strict routine, is considered more meaningful than attendance at a primary school. A motivation for this life style is the pride derived from the traditional and aesthetic value of the hereditary skill of silk weaving and the autonomy of self-employment that it confers.

3.7 Both facilities and time are scarce for most urban families, more so for the urban poor, to attend to children. A combination of factors, different from the rural reality, constrains attention to the urban child, particularly among the poor; circumstances are even more difficult for recent migrants to cities who do not have a network of neighbours and relations to fall back on. Among the factors that aggravate this situation are the disappearance of the joint family as an institution, changes in infant and child feeding practices including the age of weaning, decline in the variety and quality of the family diet, the fewer contacts with grand parents, the decline of traditions like story telling, the shrinking of space, company and facilities for children to play, the growing phenomenon of the absentee father, the strains on mothers increasingly having to head the household and above all, the trend in which more and more families uprooted from their rural environment become marginalised — not just in terms of purchasing power — in a strange new social setting. The interacting implications for the growing child of this complex set of unprecedented changes are still to be studied.

3.8 The tribal communities form about a twelfth of India's population. The cultural variations are wide among some 450 tribes concentrated in dispersed parts of the country engaged in a variety of occupations. Not much is known of how tribal children grow up. In some tribes, the child is constantly with the mother until around the age of 5. In others, the mother leaves the young child in the care of an older sibling or to play in mud or with animals, while

the mother is away at work. Placid patterns of tribal child care get disrupted to the extent tribals are forced by poverty to move to towns to work in mining and other industries. Some tribal groups view children as belonging not so much to the parents as to the community as a whole. As a rule, children are highly valued and are trained early in useful gender-differentiated work. Despite the often negative aspects of their nutrition and health status, tribal children usually grow up in a climate of equality, and fewer restrictions are placed on girls than in non-tribal communities.

3.9 Recent studies have brought out some broad aspects of childcare facilities, to the extent they exist, for women workers in organized industry and in the much vaster informal sector discussed under Early Childhood Care and Education, Chapter 7.

Differentials in access

3.10 In a society still stratified according to a hierarchical caste system, social discrimination, economic deprivation and gender bias easily converge. This situation is sharply reflected in the access of the young child to the available learning opportunities. The Integrated Child Development Services is focused on priority to the scheduled castes and tribes, other deprived groups and disaster-prone areas. This programme provides some child care and nutrition to the most deprived but the quality of care needs improvement. For example, a drawback of ICDS is the weakness of the learning facility.

3.11 While several of alternative means to early childhood development are being pursued in the public, voluntary and commercial sectors, more widespread application of appropriate and feasible culture-specific approaches to early childhood stimulation and pre-school learning opportunities is essential, and awaited. Pre-school learning opportunities, during the most impressionable years, are much more than a routine run-up to primary education or, as often happens unfortunately a downward extension of it. Sensitively provided, early learning facility is an enriching time-specific experience of essential value in itself. As has been observed, "the child never learns

in later life what it does in the first five years" (Mahatma Gandhi).

The primary phase

3.12 Primary education spans the first five years of formal schooling, between 6 and 11 years of age (except in a few states where the period is four years). Long before India's Independence, political leaders pleaded the case for universal primary education, rather unsuccessfully, in the central legislature of that time (1910). Soon after the coming of national freedom, the Constitution (1950) directed that "the State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years." (Article 45). Four decades after, the right to education is enjoyed only by about half the children of the primary age, as will be seen from the following paragraphs. While this situation has many causes, including the many expressions of material poverty, it has something to do with the quality and relevance of the education available.

3.13 Analysts have noted that just as pre-primary learning is being considered, rather narrowly, as no more than a preparation for the undoubtedly crucial first stage of formal education, the latter too tends to be viewed mainly as a feeder for the secondary level; which in its turn, is so structured as to respond to the demands of higher education, rather than to concerns related to the particular environment of life. This way, the entire system tends to be geared to cater for a small proportion of the population who reach higher levels of learning. This point is reinforced by a 1975 study which showed that as much as 80 percent of the total per student expenditure (including the non-recurring part of it) at the higher education level is subsidised by the state. It follows that the sharpest contrast between the facilities available to the students from the higher income groups, as compared to the poorer groups, is at the primary education level. It becomes also clear that even a small percentage decrease in unit cost to the public funds, of secondary and higher education could release additional funds for primary basic education to far more

children. The main problem seems to be the implicit devaluation of the earlier phases of learning, at any rate in respect of the majority of learners.

Going by enrolment

3.14 Of this situation, what are the consequences to the child of primary school age? It helps to see the present in a historical perspective. Despite the expansion of primary education under the British rule during the preceding 130 years, only one child in three between 6 and 11 years was enrolled in school around 1947; the rates of wastage and stagnation were very high and the quality of education was quite uneven. This low start made the Constitutional injunction of universal elementary education an unusual challenge. It was perhaps easier to open more schools under government or semi-government auspices than to get children enrolled, to attend and to achieve. The total enrolment in classes I to V increased from around 20 million (about 38 percent of the relevant population) in 1951 to some 80 million (some 84 percent) by 1981. This 'gross' ratio of enrolment has been reported to be over 97 percent by 1988, 'over age' and 'under age' accounting for the 'grossness' reckoned at about 25 percent. Though enrolment is not the same as education (or even attendance), changes in the ratio point to a trend. It seems to have moved faster in the 1980's than in the preceding decades. This trend is reflected in girls' enrolment too.

3.15 The discrepancy between data collected by the Departments of Education and the data collected under the Census is acknowledged. The Fifth Educational Survey (1988) gives the impression that the gap between enrolment and retention is reducing. There are, however, problems in accepting this impression. One problem is that some of the least literate states appear to be ahead of the traditionally more literate states in the context of children's retention in schools through the primary years. Thus, for example the enrolment in Grade II and III as percentage of Grade I is reported to be higher in Madhya Pradesh and Uttar Pradesh than in Tamil Nadu and Maharashtra. Possibly, a significant number of students who have to repeat in the

same grade contributes to this picture. Under normal circumstances in the context of children's retention in the second and third year of primary education one would classify MP and UP with Rajasthan, Bihar, and Andhra Pradesh. No radical or even modest reform in MP and UP has taken place to lift them to the category of states where Tamil Nadu and Maharashtra belong.

3.16 The proportion of girls' enrolment to the total enrolment at the primary level has increased from 17 percent in 1950-51 to 35 percent in 1987-88. However the number of girls at the primary stage as a proportion of girls in the relevant age group has not shown any significant improvement during the 1980's. In fact the number of girls not attending school has been increasing. And despite the steady increase in participation, a vast majority of the scheduled caste and tribe girls remain out of school. And the absolute magnitude of girls' enrolment is still small and the gender gap even at the primary level has not yet begun to narrow. Educational participation of girls is substantially lower than that of boys in all the states except in Himachal Pradesh, the north-eastern states, Goa, Kerala and most of the Union Territories. This pattern is broadly reflective of the degree of gender equality prevailing in each state.

3.17 The pace of expansion was unprecedented and created problems of quality. Unlike in an earlier era when schools were organized on the initiative of local communities as a result of expressed demand, primary education underwent linear expansion largely on government responsibility and/or aid. Of the several consequences that ensued, one has been the increasing (absolute) number of children not making it to the next grade or of dropping out altogether from the system or, linked to both these, not wanting to be enrolled at school. This central problem has persisted, despite a steady increase in the proportion of children moving up from the primary to the next stage. This situation has been aided by a number of other factors like the bureaucratic culture pervading the educational system across the country, material poverty in the home, parental perceptions on the value of education and social values regarding role of women and education of

girls which is perceived as even 'costlier' than that of boys. In fact, through the years of development planning, warning signals have periodically been coming that the reality in the field of basic education has been at wide variance with the policy aims and that the backlog of absolute number of children not receiving education has been increasing.

In and out of school

3.18 While a large proportion of children do enrol in schools, the high drop out rate (as well as the low levels of achievement by those who continue in the system) is a major concern in primary education. It is estimated, that currently over 50 percent of the students drop out by the end of class V. The Approach Paper to the 8th Plan puts the drop out rate at 70 percent from 6 to 14 years.

3.19 It has been computed that the number of 6-14 year olds out of school increased from 29 million in 1966, to 48 million in 1978, to 75 million in 1981. Of these 75 million, 65 million are in the rural areas; and 37 million of them are rural girls. The rapid increase in the number of children of this age and the low grade-transition rates have evidently complicated the task of achieving the policy goals. See Table 3.2. Most of the states having a relatively large concentration of their population in the age group 6-11 years are also educationally backward, and have low levels of income as well as high dependency ratios (defined as the number of children 0-14 years per 1000 persons aged 15-59 years). For rural areas, the proportion of children between 6 and 11 years in the total population varies from 16.16 percent in Bihar to 11.75 percent in Kerala. The resource needs for quantitative coverage through expansion of the network of primary schools in the seven states of relative educational backwardness (Bihar, Rajasthan, Uttar Pradesh, Madhya Pradesh, Orissa, Andhra Pradesh and West Bengal) would be enormous—not to speak of the effort required for qualitative improvements necessary to assure participation and achievement. There is evidence that, though education in government school, is free in that there is no tuition fee, many parents are not able to meet the private

costs of education, not the least the opportunity costs. According to age-specific literacy rates in the 1981 census, while the number of literates in the age-group 5-14 years grew by over 48 percent since 1971, the number of illiterates too grew in this age-group—by about 23 percent (or 2.6 million).

3.20 It can be argued that the emphasis on mechanical literacy may be at the heart of the well-researched yet poorly understood problem of early elimination, better known as the high drop-out rate. The pre-literacy tasks children are required to perform in primary schools take too much time and energy in the child's first year at school, and do not offer any immediate reward in the form of satisfaction of having read something worthwhile or interesting. This seems to prove frustrating enough for a large proportion of children, especially those from homes lacking a reading environment at home, to grow indifferent to school and eventually to stop attending it. The sharp difference between enrolment figures of Grade 1 and Grade 2, given in the Fifth Survey report, in lieu of longitudinal data, justifies this view. The following table presents Grade two enrolment, expressed as percentage of Grade 1 enrolment in some of the states (states like Madhya Pradesh and Uttar Pradesh are omitted due to doubtful reliability of their data):

| | |
|----------------|------|
| Andhra Pradesh | 64.9 |
| Assam | 55.8 |
| Bihar | 57.5 |
| Gujarat | 73.0 |
| Kerala | 77.9 |
| Maharashtra | 77.3 |
| Rajasthan | 47.6 |
| West Bengal | 56.3 |

3.21 According to the 1981 census, there were 97 million children in the age group 6-11 years, constituting over 14 percent of the total population. Computing from the census data the size and distribution of the children not attending school, only about 46 million children (6-11 years) were attending school—the over-estimates of school enrolment in educational statistics not-

DIAGRAM 3.1

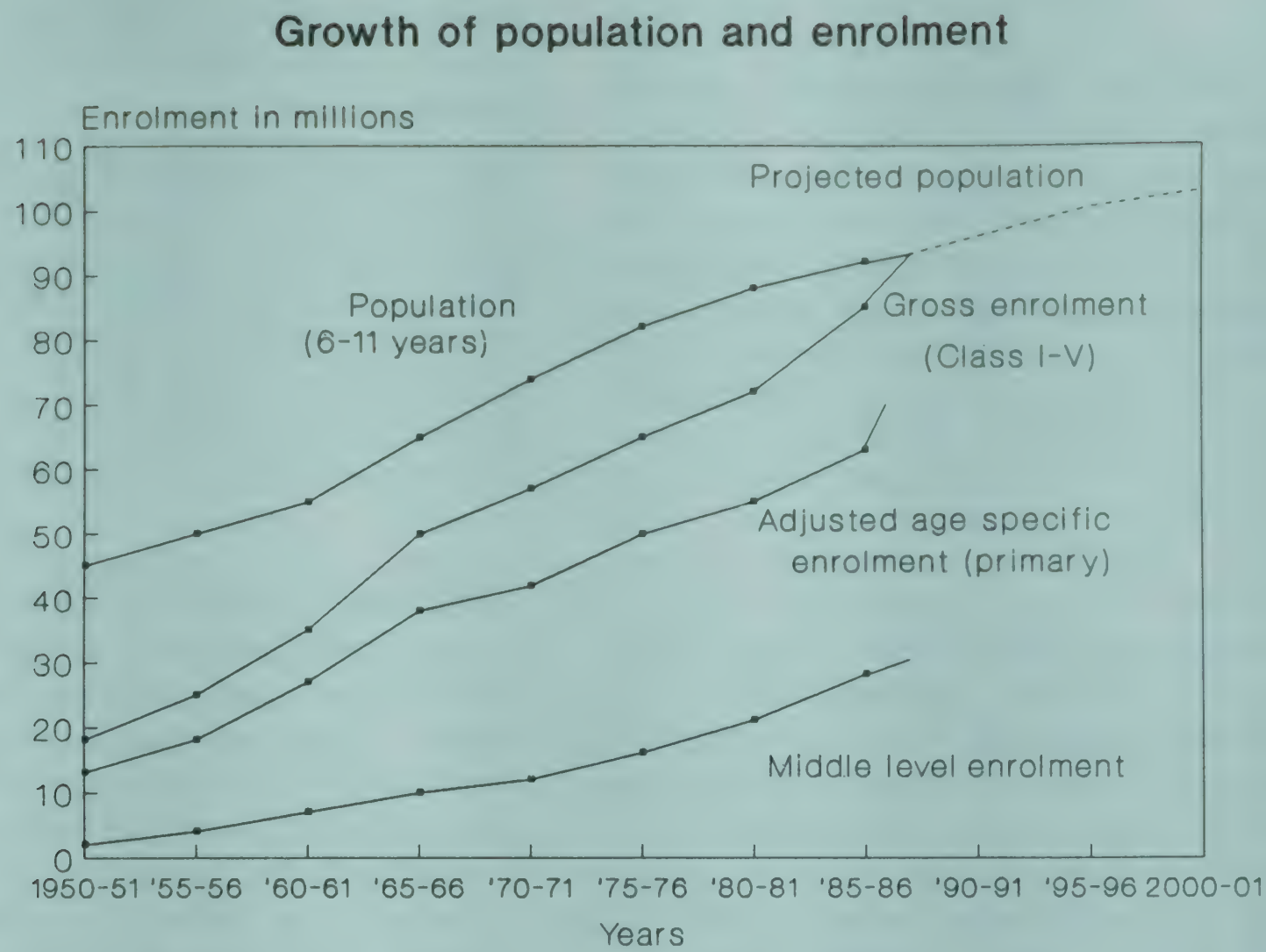
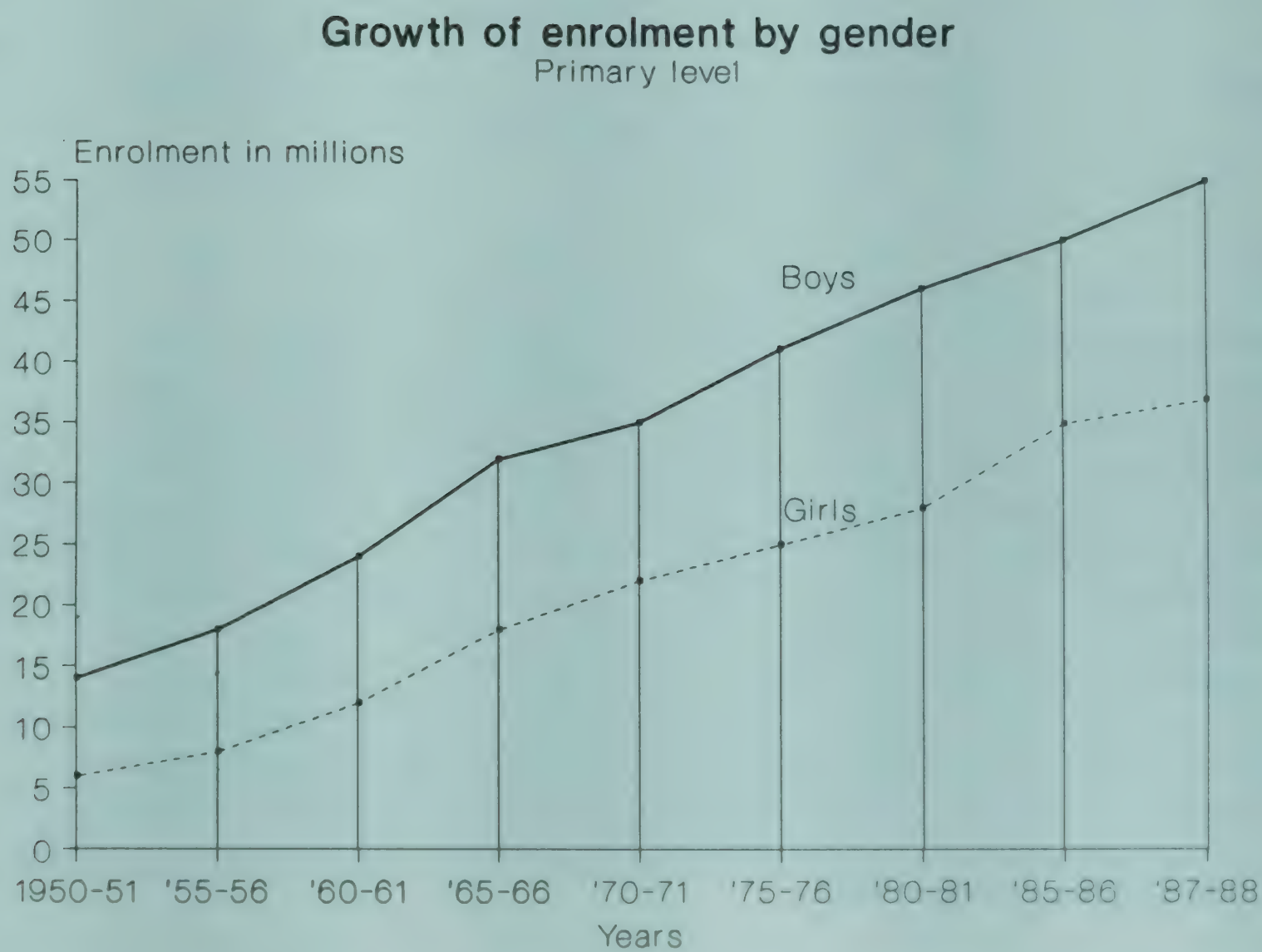


DIAGRAM 3.2



withstanding. Table 4.24 (Chapter 4) gives some clues to probe this gap which hides layers of disparities from a complex of causes.

3.22 Despite a large number of research studies to interpret the incidence of stagnation and drop-out, which have remained high and almost steady, not many have tried to look at the 'wastage' from the child's perspective. Consider the findings of a 1979 study of some 80 schools in different parts of Karnataka. Of every 100 children who entered class one, 63 left by the beginning of class five. The largest segment of children, 38, did so during the very first year at school. Even if it is assumed that around 10 of them had been enrolled by force by the teacher (who is always under official pressure to enhance enrolment) and were thus unwilling entrants, there was still a formidable percentage of 28 who did not stay on for even a few months. As these children of around 6 years of age could not have been of much labour value to their families, poverty at home could not adequately explain the parents' preparedness to reverse their earlier decision to enrol the children at

school. The same study found that only around a fifth of the children who dropped out over the five years, were occupied as earning labourers. This, again, means that earning as labourer is not a big incentive for leaving school.

3.23 The inter-state disparities in attendance at school is reflected in Table 4.3. To focus on the 6-11 year group, the coverage in terms of attendance varies from 89 per cent in Kerala at one extreme to well below a third in Rajasthan, Bihar, Uttar Pradesh and Madhya Pradesh. Between them, these four states hold about 55 percent of all out-of-school children, 6-11 years, in the country. They also account for 40 percent of the total population. Some analysts see bipolar differentiation emerging between the smaller and/or economically better-off states on one hand and the larger and poorer states on the other. Perhaps, it is more useful to see the States falling into four categories, according to participation at school, as shown in paragraph 6.23. Beneath this level of disaggregation are deeper aspects of disparity specific to location, class, caste and, not the least, gender.

TABLE 3.2

Population in 6-11 years age group and other Indicators in selected states : 1981.

| State | Decennial Growth (1971-81) | (Percentage) | | Literacy Rate 1981 | |
|-----------------|----------------------------------|--|---------------------------|--------------------------|-------|
| | | Population below Poverty Line(1983-84) | Population 6-11 Years. | | |
| | | | Rural | Urban | |
| INDIA | 25.0 | 37.4 | 15.04 | 13.12 | 36.2 |
| Uttar Pradesh* | 25.5 | 45.3 | 15.89 | 14.48 | 27.16 |
| Bihar* | 24.1 | 49.5 | 16.16 | 14.95 | 26.20 |
| Maharashtra | 24.5 | 34.9 | 14.80 | 12.65 | 47.18 |
| West Bengal* | 23.2 | 39.2 | 15.45 | 11.65 | 40.94 |
| Andhra Pradesh* | 23.1 | 36.4 | 15.00 | 13.80 | 29.94 |
| Madhya Pradesh* | 25.3 | 46.2 | 15.45 | 13.55 | 27.87 |
| Tamil Nadu | 17.5 | 39.6 | 12.30 | 12.15 | 46.76 |
| Karnataka | 26.8 | 35.0 | 15.25 | 13.64 | 38.46 |
| Rajasthan* | 33.0 | 34.3 | 15.96 | 14.35 | 24.38 |
| Gujarat | 27.7 | 24.3 | 14.67 | 12.71 | 43.70 |
| Orissa* | 20.2 | 42.8 | 14.85 | 13.80 | 34.23 |
| Kerala | 19.2 | 26.8 | 11.75 | 11.02 | 70.42 |

* Educationally backward states.

Source : Census, 1981.

Of this, the sharpest reflection is the literacy rate (1981) of the rural female: less than 18 percent for the general population, less than 9 for the scheduled castes and below 7 for the scheduled tribes.

3.24 Consider, for example, the vast rural-urban disparity. Not only is the extent of children attending school higher in the urban areas in almost all the States, the male-female differentials are also comparatively low in the urban areas. In the rural areas only 41 percent of 6-11 year children are attending school compared to nearly 69 percent in urban areas (Chapter 4 - Table

4.25). An analysis of the 1981 data, by age, (Table 3.4) shows that of the 6 year old children, only one of three in rural areas and only every other child in urban areas were attending school. This does not imply that the relative improvement in the urban areas reflects a satisfactory situation, particularly in relation to the urban slums, where around a fourth of the urban population lives. Studies in several cities show that enrolment, attendance and grade transition in the slums are lower than in non-slum urban areas; and lower for girls than for boys.

TABLE 3.3

Proportion of children attending school : 1981.

| State | 6-11 Years | | | 11-14 Years | | | 6-14 Years | | |
|-----------------|------------|--------|-------|-------------|--------|-------|------------|--------|-------|
| | Male | Female | All | Male | Female | All | Male | Female | All |
| <i>Rural</i> | | | | | | | | | |
| India | 50.53 | 31.32 | 1.25 | 59.52 | 30.13 | 45.70 | 53.48 | 30.94 | 42.69 |
| Uttar Pradesh* | 41.16 | 17.53 | 30.34 | 59.05 | 19.72 | 41.69 | 46.69 | 18.18 | 33.78 |
| Bihar* | 40.22 | 18.54 | 29.89 | 54.92 | 20.04 | 39.16 | 44.62 | 18.96 | 32.57 |
| Maharashtra | 65.76 | 47.40 | 56.64 | 68.17 | 40.30 | 54.79 | 66.61 | 45.02 | 56.00 |
| West Bengal* | 45.65 | 34.40 | 40.10 | 57.39 | 39.53 | 48.66 | 49.60 | 36.10 | 42.96 |
| Andhra Pradesh* | 49.23 | 30.62 | 39.97 | 45.33 | 20.80 | 33.50 | 48.00 | 27.65 | 37.97 |
| Madhya Pradesh* | 42.79 | 18.62 | 30.97 | 50.79 | 16.30 | 34.64 | 45.42 | 17.90 | 32.14 |
| Tamil Nadu | 69.55 | 53.89 | 61.84 | 59.54 | 33.34 | 46.79 | 65.97 | 46.67 | 56.80 |
| Karnataka | 54.30 | 36.39 | 45.25 | 53.01 | 27.86 | 40.57 | 53.88 | 33.67 | 43.73 |
| Rajasthan* | 42.74 | 11.49 | 27.83 | 56.00 | 10.60 | 34.79 | 47.05 | 11.21 | 30.06 |
| Gujarat | 59.20 | 41.62 | 50.73 | 67.71 | 42.12 | 55.76 | 62.08 | 41.78 | 52.40 |
| Orissa* | 56.60 | 36.15 | 46.32 | 54.75 | 27.75 | 41.46 | 55.96 | 33.35 | 44.67 |
| Kerala | 89.55 | 88.58 | 89.07 | 88.62 | 84.87 | 86.76 | 89.18 | 87.12 | 88.16 |
| <i>Urban</i> | | | | | | | | | |
| India | 72.82 | 64.72 | 68.90 | 78.26 | 67.06 | 72.94 | 74.72 | 65.52 | 70.29 |
| Uttar Pradesh* | 56.71 | 46.89 | 52.07 | 66.90 | 53.86 | 60.89 | 60.08 | 49.12 | 54.94 |
| Bihar* | 67.37 | 54.71 | 61.36 | 78.39 | 61.72 | 70.76 | 70.97 | 56.90 | 64.36 |
| Maharashtra | 81.05 | 75.24 | 78.21 | 85.66 | 76.51 | 81.31 | 82.70 | 75.68 | 79.30 |
| West Bengal* | 70.31 | 63.40 | 67.02 | 78.48 | 69.93 | 74.37 | 73.28 | 65.81 | 69.71 |
| Andhra Pradesh* | 70.60 | 64.08 | 67.37 | 74.64 | 60.08 | 67.57 | 71.97 | 62.76 | 67.44 |
| Madhya Pradesh* | 71.38 | 61.02 | 66.31 | 80.36 | 65.19 | 73.17 | 74.57 | 62.44 | 68.70 |
| Tamil Nadu | 82.87 | 77.33 | 80.13 | 77.63 | 65.57 | 71.78 | 80.09 | 73.06 | 77.05 |
| Karnataka | 72.85 | 66.17 | 69.52 | 74.43 | 63.77 | 69.22 | 73.40 | 65.36 | 69.42 |
| Rajasthan* | 66.43 | 48.98 | 58.00 | 77.88 | 52.30 | 65.73 | 70.33 | 50.08 | 60.61 |
| Gujarat | 74.76 | 67.65 | 71.35 | 82.59 | 72.56 | 77.89 | 77.53 | 69.34 | 73.63 |
| Orissa* | 73.01 | 62.47 | 67.80 | 74.41 | 60.22 | 67.60 | 73.50 | 61.71 | 67.73 |
| Kerala | 92.84 | 92.62 | 92.73 | 90.72 | 89.58 | 90.16 | 92.00 | 91.40 | 91.71 |

* Educationally backward states.

Source : Compiled from Census, 1981.

TABLE 3.4
Proportion of 6 year old children attending school : 1981.

| State | Male | Female | All |
|-----------------|-------|--------|-------|
| Rural | | | |
| Uttar Pradesh* | 20.70 | 10.05 | 15.67 |
| Bihar* | 22.98 | 11.85 | 17.53 |
| Maharashtra | 41.24 | 31.12 | 36.25 |
| West Bengal* | 26.97 | 21.08 | 24.06 |
| Andhra Pradesh* | 37.35 | 25.40 | 31.47 |
| Madhya Pradesh* | 25.67 | 12.83 | 19.34 |
| Tamil Nadu | 58.61 | 49.72 | 54.31 |
| Karnataka | 32.18 | 23.33 | 27.83 |
| Rajasthan* | 23.94 | 07.92 | 16.34 |
| Gujarat | 33.35 | 23.98 | 28.80 |
| Orissa* | 42.23 | 29.62 | 35.99 |
| Kerala | 72.84 | 72.55 | 72.69 |
| INDIA | 31.29 | 21.19 | 26.39 |
| Urban | | | |
| Uttar Pradesh* | 39.53 | 33.85 | 36.77 |
| Bihar* | 49.67 | 41.15 | 45.56 |
| Maharashtra | 61.70 | 57.73 | 59.76 |
| West Bengal* | 52.12 | 47.47 | 49.88 |
| Andhra Pradesh* | 60.82 | 53.52 | 57.22 |
| Madhya Pradesh* | 51.56 | 44.49 | 48.07 |
| Tamil Nadu | 69.99 | 67.01 | 68.54 |
| Karnataka | 52.51 | 48.33 | 50.46 |
| Rajasthan* | 46.87 | 37.12 | 42.13 |
| Gujarat | 51.51 | 46.63 | 49.16 |
| Orissa* | 56.93 | 49.68 | 53.36 |
| Kerala | 80.64 | 79.71 | 80.19 |
| INDIA | 55.02 | 49.65 | 52.40 |

* Educationally backward states.

Source : Compiled from Census, 1981.

Layers of disparities

3.25 It is noted, in the next chapter, Growing up as a Girl, that though the percentage of scheduled caste and tribe children enrolled is not below their percentage of the total population, the gender differentials among them are pronounced. Tables 3.5, 3.6 and 3.7 point to the extent of disparities to which socio-economically backward classes are subject in respect of schooling. Various studies indicate that the vast majority of school-age children who have never enrolled or have dropped out belong to families having very limited income and

assets and are low in the caste and occupational hierarchy. The drop out rates continue to be much higher for scheduled caste boys and girls compared to others. The educational level of the parents too are low, showing a strong correlation between economic, caste and educational status. Low value attached to education, especially for girls and early marriage are among the factors relevant to this context. Specific attention is necessary to identify sub-groups including some religious minorities, lagging behind on account of multiple socio-economic handicaps. In 1981-82, the dropout rate was over 55 percent for girls compared to 47 percent for boys at the primary level. This rate seems to be maintained, notwithstanding the larger numbers of children at school. The inter-state variations in dropout rate are extremely large: for girls, from 6 percent in Pondicherry to 82 percent in Manipur; for boys, from nil in Pondicherry to 80 percent in Manipur.

3.26 The various layers of disparity seem to find cumulative expression in the educational disparity suffered by girls of school going age, as observed in Chapter 4. Overall, consequent on the increase of the share in the population of the younger age groups, the number of children of school age has been increasing at a rate faster than that of their enrolment at school. Their position becomes worse in relation to the

TABLE 3.5
Percentages of children in the age-group of 5-14 years attending educational institutions according to the monthly per-capita consumer expenditure classes.

| Monthly per capita expenditure class (Rs) | Rural | Urban | State |
|---|-------|-------|-------|
| Upto 30 | 31.7 | 47.9 | 33.2 |
| 31-40 | 42.8 | 58.4 | 44.7 |
| 41-50 | 46.9 | 57.5 | 48.4 |
| 51-70 | 53.9 | 72.0 | 58.0 |
| 71-100 | 66.7 | 82.5 | 72.0 |
| 100-150 | 76.7 | 85.3 | 83.1 |
| 151 and above | 81.7 | 93.9 | 93.1 |
| All classes | 54.8 | 79.0 | 62.0 |

Source : K. Subbarao, 1987. Some aspects of access to Education in India.

TABLE 3.6

Percentages of children from backward classes and rest of the population attending education institutions.

| Area | Sex | Backward classes | Rest of the population |
|-------|--------------|------------------|------------------------|
| Rural | Boys | 54.5 | 65.2 |
| | Girls | 32.7 | 50.8 |
| | All children | 44.6 | 58.5 |
| Urban | Boys | 72.2 | 84.5 |
| | Girls | 64.5 | 77.6 |
| | All children | 68.9 | 81.3 |

Source : K. Subbarao, 1987. Some aspects of access to Education in India.

TABLE 3.7

Percentages of children in the age-group of 5-14 years attending educational institutions according to selected employment status categories of households.

| Employment status | Rural | Urban | State |
|---------------------|-------|-------|-------|
| Self-employed | 58.2 | 77.6 | 61.7 |
| Salary/wage earners | 70.0 | 86.4 | 80.5 |
| Casual labourers | 40.3 | 52.6 | 42.4 |

Source : K. Subbarao, 1987. Some aspects of access to Education in India.

backwardness of their state and socio-economic status—more so in the rural areas. And the gap becomes the greatest when it comes to the rural female child. The following diagram illustrates the inter-state situation.

3.27 The educational backwardness of Rajasthan, Uttar Pradesh, Bihar and Madhya Pradesh is sharply reflected in the poor reach of the system to the rural female child population. In the case of Rajasthan, only one out of every nine rural female children is known to be attending school. The graphs that follow illustrate disparities between states.

3.28 Repeating one or more classes is a common experience of many rural and urban children, even at primary school.

This phenomenon of stagnation is a commentary more on the system than on the children and arises from a combination of ineffective teaching and irregular attendance. There are not enough data to estimate the overall stagnation rates.

3.29 As of 1981, there was an estimated 75 million children between 6-14 years out of school (of the total population of around 140 million in that age group). What is the option, or safety net, available to these children, found mostly in the nine educationally backward states: Andhra Pradesh, Assam, Bihar, Jammu and Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal? With the exception of West Bengal and Assam, these states are backward in terms of literacy levels as well.

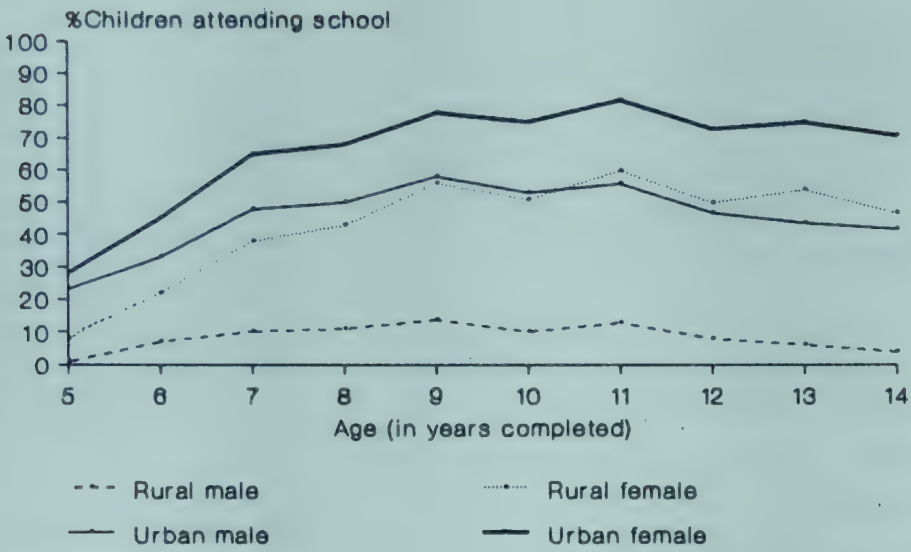
Non-formal channels

3.30 Non-formal education (or part-time education), is an option to out-of-school children offered mainly by state governments and partly by voluntary agencies. The scheme is meant primarily for the age-group 9-14 years and to enable children to enter the middle school in less than the usual five years—by adapting the curriculum and the learning pace to suit the needs of the learners. According to the 1986 Educational Survey, non-formal centres function mainly in the rural areas of the educationally backward states, with a total enrolment of 3.6 million mostly at the primary level. In addition to government programmes, some 250 non-government organizations are involved in this field. Though non-formal centres are intended to complement the formal schools, in practice the two streams function in mutual isolation. The viability of the former is linked to its flexibility on one hand and the opportunity costs for the poor in sending their children to formal schools. There are instances where the enrolment of girls in formal schools is half that of boys while in night schools it is equal.

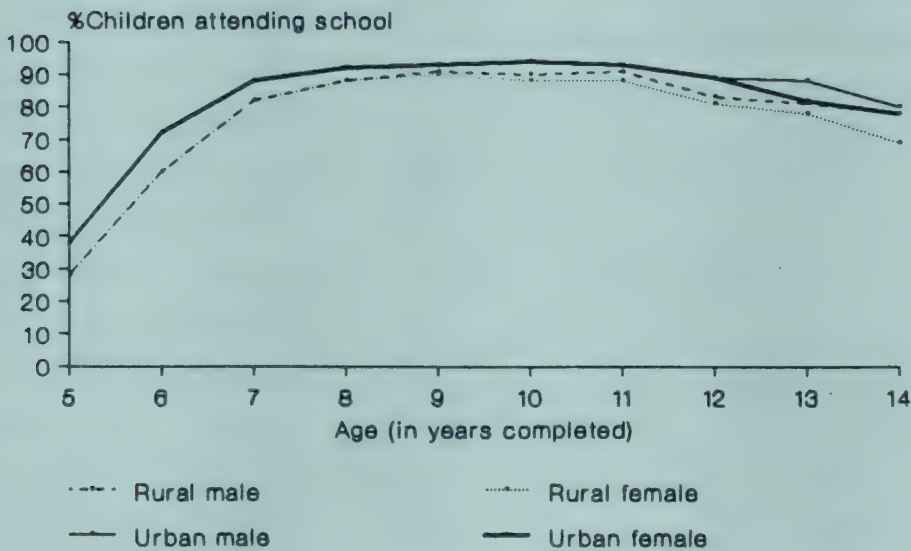
3.31 Several deficiencies in the functioning of non-formal centres have been observed—lack of flexibility and innovation particularly in relation to teaching materials and methods; inadequate teacher training and weak monitoring. On the contrary, vibrant experiments by educational in-

School attendance, 1981

Rajasthan



Kerala



Maharashtra

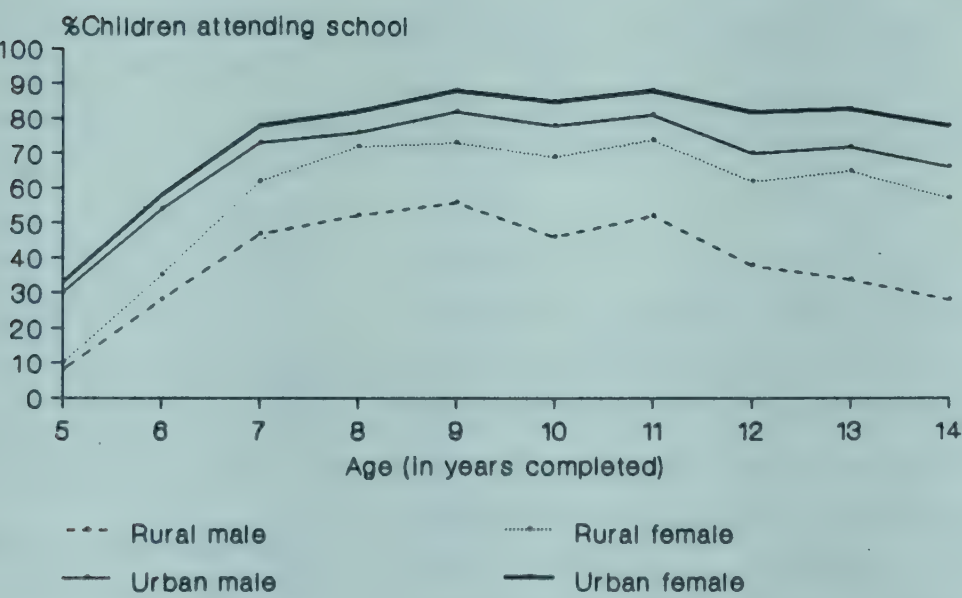
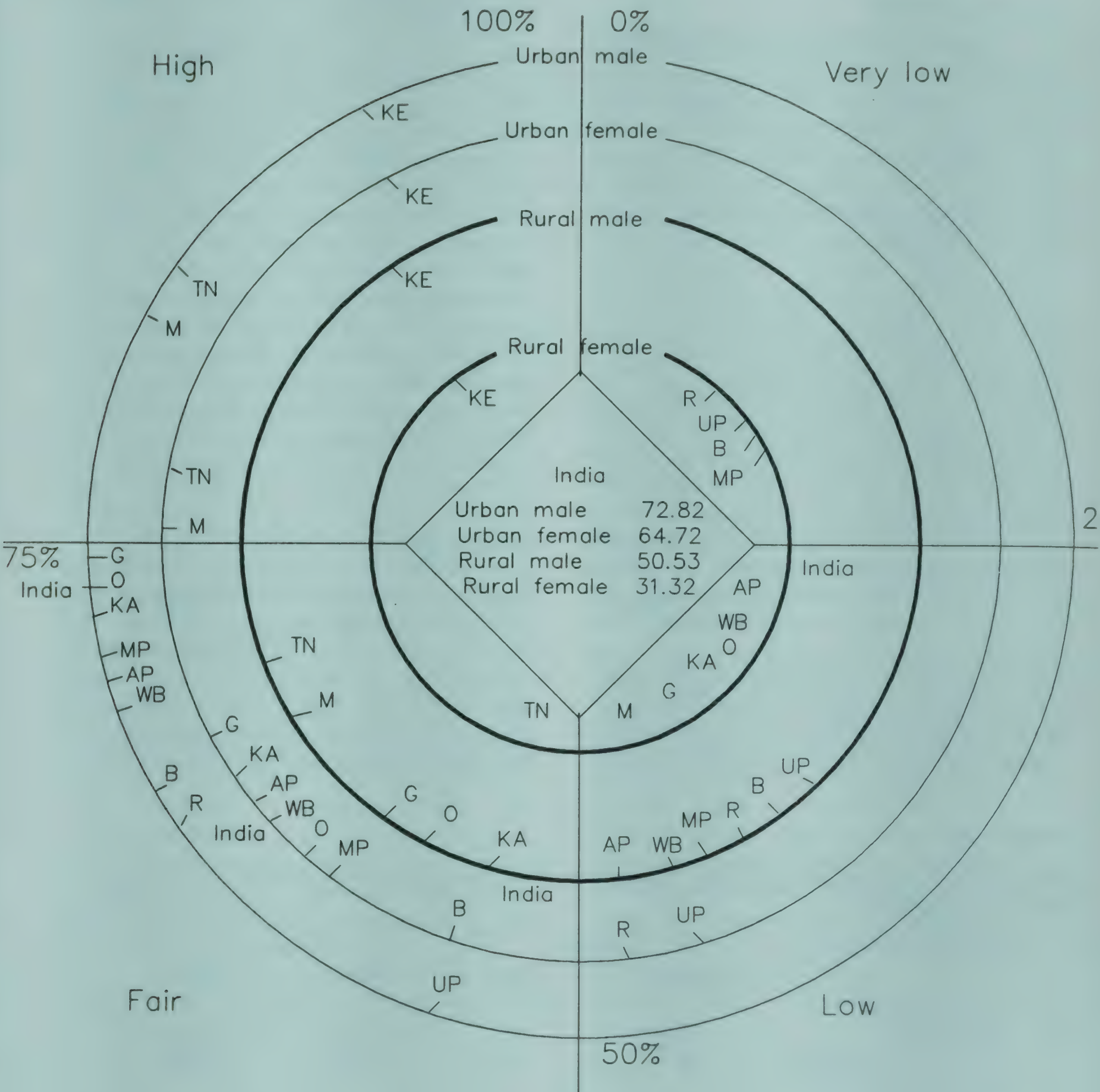


DIAGRAM 3.4

Children attending school, 1981
6-11 years



AP - Andhra Pradesh
B - Bihar
G - Gujarat
MP - Madhya Pradesh

R - Rajasthan
WB - West Bengal
O - Orissa
UP - Uttar Pradesh

KA - Karnataka
M - Maharashtra
KE - Kerala

stitutes and voluntary organizations have proved the relevance and potential of a non-formal route to basic education. In the diverse conditions that exist, there is perhaps no conclusive evidence of its uniform effectiveness.

Working children

3.32 Most of the children of school age who are not at school may be expected to be put to some work, 'in the home or outside, unpaid or paid in cash or kind. India has probably more working children than any other country. And a large proportion of school-going children, especially those from low income families, have to work part of the time helping their families in household work and in agricultural or other home-based activity. It is not easy to estimate the number of working children partly because of definitional problems and the widely dispersed nature of the work mostly in the unorganized sector of the economy, and partly because of the reluctance of the employer to admit that work is being extracted from children. The number of working children in the mid-1980's has been variously estimated at 17 million, 44 million and over a 100 million—the extent depending mainly on the definition followed. An extreme case is presented by the phenomenon of 'bonded labour' under which a person pledges himself, or a member of his family, to work exclusively for the creditor against a loan. An unofficial survey

of some 10 states in 1978 put the total number of bonded labour at 2.6 million including a sizable proportion of children. The other categories broadly are: street children, wage labour in prohibited and hazardous occupations, child workers in unorganized economic activities; and children engaged in the family's work.

3.33 There is a conflict between the all-too-familiar acquiescence in child labour which comes in the way of a child's optimal development and the Constitutional directive that "the tender age of children shall not be abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength." This directive is in consonance with Convention 138 of the International Labour Organization and Article 18 of the UN Convention on the Rights of the Child. The argument that the child has to choose between wage labour and starvation is a comment on the nature of the socio-economic system and is weakened by the common practice of termination of employment once the child reaches 15 years and is likely to insist on better wages and conditions of work.

3.34 Apart from bonded labour which is a consequence mainly of rural indebtedness, and the extensive engagement of the juvenile work force in agriculture and allied occupations in the rural sector, child workers, 5-15 years, are commonly engaged in urban and semi-urban areas as domestic servants and as helpers in tea-

TABLE 3.8

Distribution of total boy and girl workers in the age-group 5-14 among some employment categories.

| Category of worker | Rural | | Urban | |
|---|-------|-------|-------|-------|
| | Boys | Girls | Boys | Girls |
| 1. Cultivators | 43.9 | 36.8 | 6.1 | 5.3 |
| 2. Agricultural labourers | 39.9 | 51.6 | 12.2 | 23.2 |
| 3. Livestock, forestry, fishing, etc. | 7.8 | 3.3 | 3.7 | 1.8 |
| 4. Manufacturing, servicing and repairing | 4.9 | 5.9 | 39.1 | 38.2 |
| 5. Construction | 0.4 | 0.5 | 3.3 | 3.2 |
| 6. Trade, commerce | 1.3 | 0.4 | 19.0 | 2.9 |
| 7. Services | 1.5 | 1.3 | 13.3 | 24.6 |

Source : Census, 1981.

shops, hotels, workshops, tailoring and hairdressing shops, small-scale manufacturing units, packing work and construction activities. More than 50,000 children below 14 years work in carpet weaving in Mirzapur (Uttar Pradesh). Some 45,000 children handle hazardous chemicals making matches and fireworks in Sivakasi (Tamil Nadu). Comparable numbers are engaged in glass industry making bangles, lock industry, brassware and brocade all in Uttar Pradesh, powerlooms and balloon-making of Maharashtra, bidi-making in Tamil Nadu, brick kilns in West Bengal, the slate industry in Madhya Pradesh, mining in Meghalaya, diamond cutting in Gujarat, handicraft and handlooms in Kashmir – to mention some of the documented experiences. The prevalence of child labour is believed to be highest in Andhra Pradesh. It is rampant in some tribal areas, as in Orissa. The distribution of child workers by employment category is given in Table 3.8, based on the 1981 census (which estimated the total number rather conservatively at 13.6 million).

3.35 Invariably, wages of child labour are low, conditions of work are often sub-human, attempts at regulation are usually thwarted and it is rare to find a child working for the greater part of the day, and also studying and developing in conditions of even moderate health, freedom and dignity. Rather, the reverse is commonly true. Probably, the extent of child labour and child exploitation in many ways is growing. The availability of cheap, docile, non-unionised labour is in abundance, it depresses the general wage, acts as a disincentive to family planning, swells the unreckoned ranks of the unemployed and out-of-school

children roaming the streets and thus adds to the pool of adults who are not trained or suitable for productive work. This predicament of a socio-economic system that stands in need of change stands out from a policy perspective in Part III, Chapter 8: Towards Human Goals.

A chance for the disabled

3.36 There is another group of children whose number is significant but not easy to estimate and who need educational attention, as well as sensitive and professional care, even more than other children. They are the physically or mentally handicapped children, an estimated 12 million (1981). Of this number, locomotor disabilities accounted for the largest portion (5.43 mn), followed by visual disabilities (3.7 mn), hearing (3.02 mn) and speech (1.75 mn). Existing services for them are meagre, mostly confined to urban areas and reaching about 4 percent of the physically disabled and 0.2 percent of the mentally retarded. Most of these cases are segregated in their homes, attended to by parents or close relations who may not have the necessary training, moral support and material resources.

3.37 Many of the disabilities are acquired after birth, on account of nutritional deficiencies and childhood diseases of which iodine deficiency disorders and poliomyelitis are two examples. Thus, the causes must be contained at source through primary and subsequent levels of preventive intervention, with emphasis on community education and action. Efforts in this regard are evolving, as noted in Part II.



Chapter 4

Growing up as a Girl

Life without Choice

4.1 For purposes of analysis, the stage of life considered in this Chapter may broadly be defined as coming between primary school age and young womanhood, say between 10 and 19 years of age. It does not follow that the girl child has actually been through school; or that she has the option to wait until after adolescence to enter into marriage and motherhood. In fact, available estimates suggest that, as of 1987-88, nearly 4 percent of girls between 10 and 14 years, and 37 percent of those between 15 and 19 years were already married. According to the National Sample Survey (43rd Round), in rural India as many as 44 percent of girls in the age group 15-19 years and 5 percent in the age group 10-14 years were married in 1987-88. The correspond-

ing urban proportions were 21 percent and 1.4 percent respectively.

4.2 Seen from another angle, 14 to 15 percent of all women who marry do so before the age of 19; and 2 to 3 percent before 15 years. Indeed, around 8 percent of child births are on account of mothers below 19 years. Rooted in a deep and complex social reality of which gender discrimination, traditional customs and poverty in its many manifestations are but parts, this continuing condition has acute adverse consequences for a girl's health and further development, as well as for the life and future of her child.

4.3 Reflective of the relative social indifference to meeting the developmental

needs particularly of girls in the age group, say, 10-18 years, there is a dearth of basic data some of which can be derived indirectly. A measure of the disadvantages peculiar to being a girl can be had from a review as attempted in this Chapter of the closely interlinked aspects of mortality, health-and-nutrition status, access to education, childhood labour and variety of cultural constraints.

The gender differential in the mortality rate during adolescence is appreciable, pointing to a range of disparities related to malnutrition, morbidity and worse, continuing from birth and more than nullifying the better biological survival capacity of the female as compared to the male. While in most societies, more males than females die in infancy and childhood, in India the reverse is true. This demographic imbalance repre-

TABLE 4.1
Age specific mortality rates by gender and by rural and urban areas, 1987 - India

| Age group | Rural | | | Urban | | | Combined | | |
|-----------|-------|--------|---------|-------|--------|---------|----------|--------|---------|
| | Male | Female | Persons | Male | Female | Persons | Male | Female | Persons |
| 0 - 4 | 37.8 | 41.8 | 39.7 | 18.1 | 18.2 | 18.2 | 23.6 | 36.8 | 35.2 |
| 5 - 9 | 3.3 | 4.4 | 3.8 | 1.3 | 1.9 | 1.6 | 2.8 | 3.9 | 3.3 |
| 10 - 14 | 1.6 | 1.6 | 1.6 | 1.1 | 0.9 | 1.0 | 1.5 | 1.4 | 1.5 |
| 15 - 19 | 2.2 | 2.7 | 2.4 | 1.2 | 1.8 | 1.5 | 1.9 | 2.5 | 2.2 |
| 20 - 24 | 2.5 | 3.7 | 3.1 | 1.6 | 2.1 | 1.9 | 2.3 | 3.3 | 2.8 |
| 25 - 29 | 2.4 | 3.5 | 3.0 | 1.8 | 2.0 | 1.9 | 2.2 | 3.1 | 2.7 |
| 30 - 34 | 3.3 | 3.6 | 3.5 | 2.6 | 2.1 | 2.3 | 3.1 | 3.3 | 3.2 |
| 35 - 39 | 4.1 | 3.9 | 4.0 | 3.1 | 2.7 | 2.9 | 3.9 | 3.6 | 3.7 |
| 40 - 44 | 6.5 | 4.8 | 5.7 | 5.3 | 3.1 | 4.3 | 6.2 | 4.4 | 5.3 |
| 45 - 49 | 9.3 | 6.5 | 7.9 | 7.0 | 5.7 | 6.4 | 8.7 | 6.3 | 7.6 |
| 50 - 54 | 13.8 | 10.4 | 12.1 | 12.5 | 8.6 | 10.7 | 13.5 | 10.0 | 11.8 |
| 55 - 59 | 20.5 | 15.8 | 18.2 | 19.8 | 13.1 | 16.7 | 20.3 | 15.2 | 17.9 |
| 60 - 64 | 35.8 | 27.3 | 31.5 | 31.9 | 23.2 | 27.5 | 35.3 | 26.5 | 30.7 |
| 65 - 69 | 46.9 | 38.5 | 42.6 | 47.9 | 34.4 | 41.0 | 47.1 | 37.6 | 42.3 |
| 70&above | 93.4 | 86.0 | 89.6 | 97.0 | 81.2 | 88.5 | 94.2 | 84.9 | 89.4 |
| All ages | 11.9 | 12.1 | 12.0 | 7.7 | 7.1 | 7.4 | 10.9 | 11.0 | 10.9 |

Source: Registrar General, Sample Registration System

TABLE 4.2
Sex Ratio 1901-1991 - India

| Year | 1901 | 1911 | 1921 | 1931 | 1941 | 1951 | 1961 | 1971 | 1981 | 1991 |
|-----------|------|------|------|------|------|------|------|------|------|------|
| Sex ratio | 972 | 964 | 955 | 950 | 945 | 946 | 941 | 930 | 934 | 929 |

Source: Registrar General

Chances of survival

4.4 Why do more girls die than boys ? — as indeed they do. First, some facts. Of over 13 million girls born every year, less than 11 million will be alive by their fifteenth year. As will be seen from Table 4.1, the mortality rate, which is disturbingly high for the younger age groups both in the rural and urban areas, is without exception higher for the female than for the male right upto the age of 35 years in rural areas and upto the age of 25 years in urban areas.

sents the situation and status of girls and women and is reflected in a sex ratio (number of females per 1000 males) strongly adverse to females. (Table 4.20).

4.5 The sex ratio has been declining in India through the decades of this century (except for a slight abatement of the trend during the 1940's consequent on the world war and a small improvement from 1971 to 1981. Along with some Asian neighbours the rate is also among the lowest in the world (Table 4.3). Various explanations

TABLE 4.3 Sex ratio, inter-country.

| Country | Year | Females per 1000 males (sex ratio) |
|------------|------|---------------------------------------|
| India | 1981 | 933 |
| China | 1982 | 948 |
| USA | 1985 | 1055 |
| Indonesia | 1984 | 1009 |
| Japan | 1984 | 1033 |
| USSR | 1973 | 1158 |
| Bangladesh | 1981 | 941 |
| Pakistan | 1981 | 905 |
| Sri Lanka | 1984 | 962 |
| Nepal | 1985 | 946 |

Source: - Census of India, Series I India, Paper I of 1984, Population Projections for India 1981-2001. The United Nations Demographic Year Book 1982

mother and father, sex of adjacent siblings and fertility without contraceptive intervention (natural selection) have so far been inconclusive. What is much clearer is the link between the sex ratio and the mortality pattern among female children and adults: Female-selective mortality in early childhood and also related to childbirth is a factor of the declining sex ratio as seen later in this analysis.

4.6 The age-specific mortality rate over 1971-87, shows that though the rate has been falling for the population overall, the female death rate remains consistently higher (Table 4.21).

4.7 A sex-ratio adverse to females is seen across the country but in the northern plains and the central plateau the cumulative extent of the negative results is

TABLE 4.4

Sex-ratio : districts of cumulative decline 1901-81.

| Sex-ratio 1981 | Points by which det- eriorated- 1901-81 | | Sex-ratio 1981 | Points by which det- eriorated 1901-81 | |
|----------------------|--|-----|-----------------------|---|-----|
| <i>Uttar Pradesh</i> | | | <i>Bihar</i> | | |
| Allahabad | 890 | 111 | Bhagalpur | 851 | 102 |
| Barabanki | 851 | 102 | Patna | 890 | 130 |
| Bahraich | 850 | 81 | Monghyr | 924 | 121 |
| Gonda | 890 | 75 | Sahrasa | 930 | 84 |
| Mirzapur | 881 | 154 | Champanan | 918 | 104 |
| Hamirpur | 861 | 133 | Dhanbad | 814 | 137 |
| Banda | 861 | 123 | <i>Madhya Pradesh</i> | | |
| Jalaun | 831 | 113 | Jabalpur | 914 | 114 |
| Jhansi | 861 | 95 | Narsinghpur | 930 | 109 |
| <i>West Bengal</i> | | | Raisen | 908 | 85 |
| Howrah | 873 | 62 | Hoshangabad | 908 | 96 |
| Hooghly | 909 | 74 | Sehore | 907 | 45 |
| Burdwan | 891 | 107 | Sagar | 891 | 82 |
| | | | Chhatarpur | 864 | 79 |

Source: Registrar General (computed by Ilina Sen)

have been adduced to understand this demographic distortion like the possibility of sex-selective under-enumeration, high proportion of male births and international migration. Studies focused on biological factors like sex sequence at birth, age of

revealed by an analysis of disaggregated district-level data of successive censuses (Table 4.4). Analysts have further noted that when age-specific ratios are plotted for each of the districts, two depressions appear where the ratio drops well below the

average for the years: first, in late childhood and early adolescence; second, during 30-40 years of age and 50- 60 years, reflecting the perils of the reproductive period and of long years of heavy work.

4.8 In an inter-state picture of female-male ratios of age-specific mortality rates (Table 4.5), it is seen that in a few states like Andhra Pradesh, Himachal Pradesh and Kerala, the female death rates are lower than those of males. This suggests that excess female mortality is not intractable even at existing levels of economic development. Apart from Kerala, referred to earlier, only 6 other major states have sex ratios over 950 (Andhra Pradesh, Jammu and Kashmir, Himachal Pradesh, Karnataka, Orissa and Tamilnadu). In several major states, such as Assam, Rajasthan and West Bengal, males outnumber females by almost 10 per cent, and the situation is even worse in Haryana, Punjab and Uttar Pradesh. Although the 1981 census data show that the historical decline in the all-India sex ratio might have been arrested, the decline has continued in several states, including the four southern states with the more respectable sex ratios. Even in Kerala, evidence of

TABLE 4.5

continuing decline is provided by the sex ratios of the two youngest decadal cohorts: 0-9 and 10-19 years (967 and 1000 respectively). While out-migration of males explains part of this imbalance, the childhood group in that state still has a lower and adverse sex ratio than the older cohorts.

4.9 Notably, in those states with relatively higher mortality rates, gender differentials and the most adverse sex ratio (like Assam, Bihar, Haryana, Uttar Pradesh and West Bengal), there is much higher female mortality among 5-9 year olds than among males despite low overall death rates at this age. In another group of states (Andhra Pradesh, Karnataka and Orissa), which have relatively higher sex ratios, the female-male differential among 5-9 year olds is less pronounced. In the third group (Gujarat, Kerala, Maharashtra, Punjab, Rajasthan and Tamilnadu), mortality among females between 5-9 years of age is actually lower than among males which suggests possibly a mild trend of improvement in young female survival.

4.10 It is not easy to isolate the factors influencing child survival. The relatively

Ratio of female to male age-specific death rates, 1987

| | Age group | | | |
|------------------|-----------|------|-------|-------|
| | 0-4 | 5-9 | 10-14 | 15-19 |
| INDIA | 1.10 | 1.39 | 0.93 | 1.32 |
| Andhra Pradesh | 0.83 | 1.38 | 1.07 | 0.95 |
| Assam | 1.13 | 0.95 | 0.85 | 1.50 |
| Bihar | 1.07 | 1.34 | 1.00 | 1.19 |
| Gujarat | 1.15 | 1.10 | 1.00 | 1.29 |
| Haryana | 1.11 | 1.92 | 1.80 | 1.54 |
| Himachal Pradesh | 1.21 | 1.20 | 2.31 | 3.22 |
| Jammu & Kashmir | 1.03 | 1.04 | 1.00 | 0.99 |
| Karnataka | 1.04 | 1.31 | 1.00 | 1.71 |
| Kerala | 0.91 | 0.81 | 1.20 | 0.45 |
| Madhya Pradesh | 1.04 | 1.41 | 1.00 | 1.21 |
| Maharashtra | 0.92 | 1.06 | 0.60 | 1.29 |
| Orissa | 1.12 | 1.17 | 1.00 | 2.19 |
| Punjab | 1.15 | 0.77 | 1.33 | 1.17 |
| Rajasthan | 1.27 | 1.83 | 0.89 | 1.67 |
| Tamil Nadu | 1.06 | 0.75 | 0.93 | 1.22 |
| Uttar Pradesh | 1.20 | 1.76 | 0.95 | 1.18 |
| West Bengal | 1.07 | 1.41 | 0.73 | 1.81 |

Source: Registrar General, Sample Registration System

low mortality rates of 10-14 year old girls in all states may be explained by an advantage enjoyed by surviving daughters in their parental homes, compared, for example, with the 15-19 year olds who are exposed to the social and biological risk of early marriage and child bearing (see Chapter 5, The Young Woman). As for future trends, in Bihar, Gujarat, Punjab, Uttar Pradesh and Haryana, which have the largest excess female mortality, some improvements seem to be taking place. However, in Madhya Pradesh, which is among the states which have the highest female mortality rates, the situation is possibly worsening.

Nutrition and growth

4.11 Mortality ahead of time is a commentary on nutritional status and health care. The health and nutrition profile of the girl child through the transition from early childhood to early womanhood does not come through as clearly as the threatened

deeper. Chronic unemployment and under-employment, recurring floods and drought, and congestion in urban slums come on top of the intra-familial disparity, aggravating what has been described as an 'entitlement failure'. The results of two surveys (among the very few), one in rural West Bengal focused on malnutrition and the other in greater Calcutta centered on morbidity and similar studies in Bangladesh corroborate these findings. A message of these investigations is that living conditions cannot be measured in terms of 'family entitlement' based on 'market information' and that social values (such as gender equality), must count in economic policy and management.

4.12 Studies in flood-affected West Bengal (1978) suggest that in times of economic crises, girls suffer malnutrition more frequently and more severely than boys. In another situation, again in West Bengal (1983), the boys fared far better than the girls consequent on land reform and an

TABLE 4.6

Energy and protein intake by males and females of different age groups

| Age Group | Energy, kcal/d | | | | Protein, g/d | | | |
|--------------|----------------|----------|---------------|-------------|--------------|----------|---------------|-------------|
| | Female | RDA Male | Intake Female | Intake Male | RDA Female | RDA Male | Intake Female | Intake Male |
| Children: | | | | | | | | |
| 1-3 years | 1050 | 1200 | 773 | 780 | 22.5 | 23.5 | 21.9 | 22.0 |
| 4-6 years | 1500 | 1700 | 1097 | 1112 | 28.5 | 30.0 | 30.9 | 31.5 |
| 7-9 years | 1800 | 2050 | 1320 | 1325 | 43.0 | 43.0 | 36.0 | 39.0 |
| 10-12 years | 1950 | 2150 | 1483 | 1550 | 62.0 | 59.0 | 41.0 | 42.9 |
| Adolescents: | | | | | | | | |
| 13-15 years | 2050 | 2400 | 1620 | 1773 | 654.0 | 76.0 | 42.9 | 49.1 |
| 16-18 years | 2050 | 2600 | 1721 | 1937 | 66.0 | 81.0 | 47.7 | 58.6 |
| Adults | 1800 | 2350 | 1789 | 2169 | 50.0 | 60.0 | 50.4 | 60.2 |

Note : RDA - recommended daily allowance

Source : Intake based on NNMB survey in 10 states, 1975-80.

chances of her survival. There have been area-specific studies on gender bias in a context of material poverty, for example on sharing of food within a poor family. The unequal distribution of food in the family, with a definite gender discrimination against the female, and also an age bias against children, has been observed even in rich countries but the lines of discrimination in poorer societies seem to be etched

overall improvement in nutritional status.

4.13 Compared to males, higher female morbidity and malnutrition during girlhood (as distinct from early childhood and the reproductive age) is indicated by considerable, if scattered, direct and indirect evidence. See Table 4.6.

4.14 Available data on dietary consumption among 1-18 year olds show that girls con-

TABLE 4.7

Percentage of females with weight less than 38 kg. calculated* from NNMB data 1974-79

| Age group | Kerala | Tamil-nadu | Karna-taka | Andhra-Pradesh | Mahar-ashtra | Gujarat | Madhya Pradesh | Orissa | West Bengal | Uttar Pradesh |
|-----------|--------|------------|------------|----------------|--------------|---------|----------------|--------|-------------|---------------|
| 20-24 | 20 | 20 | 23 | 22 | 24 | 15 | 17 | 16 | 29 | 17 |
| 25-29 | 21 | 22 | 21 | 24 | 25 | 20 | 15 | 24 | 32 | 20 |
| 30-34 | 23 | 23 | 22 | 27 | 30 | 21 | 16 | 22 | 35 | 24 |
| 35-39 | 27 | 22 | 26 | 25 | 29 | 24 | 18 | 28 | 42 | 25 |
| 40-44 | 34 | 24 | 28 | 28 | 32 | 25 | 19 | 29 | 43 | 26 |

*Calculated on the basis of values given for mean and standard deviation assuming normal distribution.

Source: NNMB, Report for the year 1979

TABLE 4.8

Percentage of women with height less than 145 cm calculated* from NNMB data 1974-79.

| Age group | Kerala (1981) | Tamil-Nadu (1827) | Karna-taka (2573) | Andhra Pradesh (2131) | Mahar-ashtra (1995) | Gujarat (2376) | Madhya Pradesh (1128) | Orissa (608) | West Bengal (1641) | Uttar Pradesh (1577) |
|-----------|------------------|----------------------|----------------------|--------------------------|------------------------|-------------------|--------------------------|-----------------|-----------------------|-------------------------|
| 20-24 | 20 | 14 | 16 | 16 | 15 | 12 | 16 | 23 | 21 | 22 |
| 25-29 | 20 | 14 | 12 | 15 | 17 | 13 | 17 | 25 | 22 | 25 |
| 30-34 | 22 | 14 | 12 | 17 | 21 | 13 | 16 | 22 | 25 | 22 |
| 35-39 | 24 | 14 | 14 | 16 | 24 | 14 | 17 | 27 | 29 | 25 |
| 40-44 | 30 | - | 18 | 18 | 24 | 16 | 18 | 22 | 29 | 26 |

* The percentages have been calculated on the basis of mean and standard deviation values using normal probability tables. Figures in brackets indicate total sample sizes.

Source: NNMB Rural Survey (1975-80)

TABLE 4.9

Iron and vitamin A intake of women and girls in different states

| States | Iron (mg/day) | | | | Vitamin A (µg/day) | | | |
|-----------------------------|------------------|------------------|------------------|-------------|--------------------|------------------|------------------|-------------|
| | Pre-school child | 13-16 year girls | 16-18 year girls | Adult Women | Pre-school child | 13-16 year girls | 16-18 year girls | Adult Women |
| Kerala | 5.6 | 15.8 | 15.0 | 14.8 | 95 | 126 | 134 | 133 |
| Tamil Nadu | 10.6 | 22.2 | 23.4 | 22.5 | 133 | 127 | 208 | 177 |
| Karnataka | 13.9 | 32.7 | 34.2 | 37.2 | 128 | 156 | 271 | 225 |
| Andhra Pradesh | 7.7 | 19.7 | 26.8 | 20.6 | 110 | 180 | 138 | 200 |
| Maharashtra | 9.5 | 24.5 | 26.8 | 28.5 | 115 | 248 | 274 | 273 |
| Gujarat | 10.0 | 22.2 | 20.5 | 21.2 | 220 | 238 | 449 | 340 |
| Madhya Pradesh | 12.3 | 21.9 | 24.4 | 23.9 | 123 | 109 | 152 | 134 |
| Orissa | 11.5 | - | - | - | - | - | - | - |
| West Bengal | 10.0 | 20.2 | 19.3 | 23.7 | 253 | 353 | 377 | 445 |
| Uttar Pradesh | 15.0 | 18.5 | 24.3 | 25.1 | 154 | 140 | 111 | 225 |
| Recommended daily allowance | 15.0 | 28.0 | 30.0 | 30.0 | 400 | 600 | 600 | 600 |

Source : NNMB Rural Survey (1975-80)

TABLE 4.10

Sex differences in iron and vitamin A intake.

| Age and sex groups | | | Iron (mg/day) | | Vitamin A (µg/day) | |
|-------------------------|-------------|-------|---------------|--------|--------------------|--------|
| | | | RDA | Intake | RDA | Intake |
| Adolescents: 13-15 year | girls | 43 | | 22.4 | 600 | 194 |
| | boys | 28 | | 24.5 | 600 | 238 |
| | 16-18 years | girls | 30 | 23.7 | 600 | 242 |
| | | boys | 50 | 28.7 | 600 | 244 |
| Adults: | women | 30 | | 25.0 | 600 | 236 |
| | men | 28 | | 31.6 | 600 | 276 |

(RDA : recommended daily allowance)

Source : NNMB rural survey (1975-80).

sume much less than boys. This situation has a decisive adverse consequence on the health status of young mothers and their offspring, more so when the nutritional deprivation, in terms of calorie adequacy, continues through the period of pregnancy and lactation.

4.15 As may be expected, socio-economic conditions influence nutritional status and physical growth. (Tables 4.7 and 4.8). Even at the existing levels of poverty, it is seen that girls can gain, between the age of 14 and 18, an average 6.8 kg. in bodyweight and 5 cm. in height. The mean age at menarche in rural girls in India is estimated at around 14 years. However, this delayed adolescent growth spurt may happen only if it is not interrupted by teenage marriage and childbirth, which is, as noted, common among the rural poor. Available data on women show that 15-43 percent have weight less than 38 kg and 12-30 percent have height less than 145 cm in different age groups.

4.16 According to the studies by the National Nutrition Monitoring Bureau (NNMB), the daily intakes of energy of males and females do not much differ upto 12 years. During adolescence and after, the intake by both sexes is much lower than the recommended levels. In respect of protein, the average intakes appear satisfactory upto the age of 6 years for girls and boys, but fall below desired levels for both, during school age and adolescence. The intakes of iron and Vitamin A are low and those of adolescent girls are lower than those of boys of

the same age groups. See Tables 4.22, 4.9 and 4.10. The roots of these deficiencies are discussed in Chapter 2, Infancy and Early Childhood.

4.17 Data on morbidity during the transition from childhood to womanhood are scarce but in combination with malnutrition and social-economic-cultural deprivation, it affects the growth and development of girls. And, growth during the adolescent period is an important determinant of adult body size, with implications for both mother and child. A few studies have been conducted mainly during the 1970s on the effects of malnutrition on gain in height and weight by girls during adolescence in relation to socio-economic as well as rural-urban differences. Together, these findings suggest that childhood and pre-adolescent malnutrition, even when severe, does not necessarily compromise linear growth during adolescence. If anything, the malnourished girls seem to grow better during this phase, which helps them to narrow the gap in height present during the pre-adolescent period. In fact, girls from the lower socio-economic groups seem to have a higher rate of gain in height between ages 14-17 years. This higher rate may not be enough for a complete catch-up and as a result their adult heights and weights may still be lower than those from the higher socio-economic groups. This also suggests that the short stature of the adult rural women in India from the lower socio-economic groups may be a consequence of her childhood growth retardation on ac-

count of environmental factors. These inferences have a bearing on development policy in relation to female adolescents.

Access to health services

4.18 Availability and actual use of health services are uneven, despite the impressive growth of the public (and private) health infrastructure, as seen in Part II. In the case of girls crossing from childhood to womanhood, there is an added problem when they fall sick. They avail of the facility much less than boys, whatever the reason of embarrassment in being examined by male doctors, difficult transport, parental perception of seriousness of illness, incapacity to meet direct and indirect costs of medical attention. There is considerable evidence of higher morbidity among girls, even though hospital and clinic attendance records almost always show a preponderance of boys. This is even more marked for indoor patients compared to outdoor patients. Reports from different parts of India show a male- female ratio of hospital admissions varying between 2.1 to 1 and 1.3 to 1, the latter from the southern states. At the same time, according to the Registrar General's country-wide survey on infant and child mortality (1979), the percentage of children sick due to the top 10 causes was generally higher for girls than boys.

4.19 There is the observed fact in many parts of India that girls at and after puberty suffer a variety of restrictions and inhibi-

tions, adding up to considerable physical and mental strain, especially for girls without access to education and with a low self-image. Some of the problem areas especially of adolescent girls from the poorer groups, are the following: The daily load of work at home or outside is such that they have hardly any time to talk to one another, to play, to relax and to expand their mental horizon. Social customs push them into early marriage. Their mobility is restricted, which could put an end to education, were they going to school. Such education to which they have access does not necessarily help them to comprehend the physical and hormonal changes in their bodies, much less an awareness of the demands of child-bearing and child-rearing. Rather, the self-perception of a menstruating girl is one of impurity, restricted as she is, for example, from entering the kitchen. Parents are often as ignorant and helpless as their daughters. They are concerned about the security of their daughters which contributes to the school drop-out rate. Nor have they an understanding of the nutritional requirements of growing up, even if they have access to adequate food. In many rural communities there is a further strain put on adolescent girls (and women) on account of lack of proper sanitary facility.

Opportunities to learn

4.20 If all goes well, a girl progresses through elementary education between 6

TABLE 4.11

Enrolment in classes I-V and gross enrolment ratios for males and females (1950-51 to 1987-88)

| Year | Enrolment (in millions) | | | Percentage of children enrolled in class I-V to total population in the age group 6-11 | | |
|----------|-------------------------|--------|--------|--|-------|-------|
| | Boys | Girls | Total | Boys | Girls | Total |
| 1950-51 | 13.770 | 5.385 | 19.155 | 60.8 | 24.9 | 42.6 |
| 1960-61 | 23.593 | 11.401 | 34.994 | 82.6 | 41.4 | 62.4 |
| 1970-71 | 35.739 | 21.306 | 57.045 | 92.6 | 59.1 | 76.4 |
| 1980-81 | 44.576 | 28.112 | 72.688 | 99.0 | 66.2 | 83.1 |
| 1986-87* | 51.007 | 35.677 | 86.683 | 106.42 | 79.89 | 93.63 |

Source: Department of Education, Selected Educational Statistics - 1982-86.. *Fifth All India Educational Survey, NCERT, New Delhi, 1989.

TABLE 4.12

Enrolment in classess VI to VIII and gross enrolment ratios of children age 11-14, (1950-51 to 1986-87)

| Year | Enrolment (in millions) | | | Percentage of children enrolled in class VI-VIII to total population in the age group 11-14 | | |
|----------|-------------------------|-------|--------|---|-------|-------|
| | Boys | Girls | Total | Boys | Girls | Total |
| 1950-51 | 2.586 | 0.534 | 3.120 | 20.8 | 4.3 | 12.9 |
| 1960-61 | 5.074 | 1.630 | 6.704 | 32.2 | 11.3 | 22.5 |
| 1970-71 | 9.426 | 3.889 | 13.315 | 46.5 | 20.8 | 34.2 |
| 1980-81 | 13.278 | 6.568 | 19.846 | 52.1 | 27.2 | 40.0 |
| 1986-87* | 17.558 | 9.663 | 27.221 | 60.6 | 35.6 | 48.5 |

Source: Department of Education, Selected Educational Statistics - 1982-86. *Fifth All India Educational Survey, NCERT, New Delhi, 1989.

TABLE 4.13 Enrolment of Scheduled Castes and Tribes, 1986

| | SC as % of total enrolment | Girls as % of SC enrolled | ST as % of total enrolment | Girls as % of ST enrolled |
|-----------------|----------------------------|---------------------------|----------------------------|---------------------------|
| Classes I-V | 17.35 | 39.05 | 8.07 | 38.57 |
| Classes VI-VIII | 14.94 | 31.40 | 5.07 | 30.18 |

and 14 years, including the primary stage (6-11 years), going on to 'secondary education' from 14 to 18 years. Alternatively, there may be a non-formal channel of education for the 6-14 year age group catering perhaps also to persons upto the age of 35 years. All this assumes availability of some facility that is useful and within reach. Often it is not. As discussed in Chapter 3, The Learning Years, there are too many gaps, coming one after another, between 'entitlement' and 'provision' for a wide variety of reasons. Part III, Policies and Strategies for the 'human goals' of the 1990s, looks at ways towards bridging these gaps by moving closer to ground.

4.21 While enrolment at school does not necessarily signify access to learning opportunities (on account of low attendance rates and heavy drop out), enrolment rates do reflect overall trends. The percentage of girls to the total number of students in classes I-V has gone up from 38 percent in 1978 to 41 percent in 1986. In classes VI-VII, girls' share in the total enrolment has gone up in the same period from 32 percent to 35 percent. Yet, at the primary level two out of every ten girls in the relevant age group are

still not enrolled, notwithstanding the three-fold increase in their enrolment ratio from 24.9 to 79.9 over 1951-87. In the upper primary stage, two out of every three girls in the age group are still out of school, although their 'enrolment ratio' has gone up by nearly eight times since the early 1950's (compared to three times for boys). Boys too have to catch up, as one in three is yet to be enrolled. (Tables 4.11 and 4.12).

4.22 The percentage share (17.35) of scheduled caste children enrolled at the

TABLE 4.14

Percentage increase in enrolment at primary and upper primary level 1978-1986.

| Class IV | Total | Girls |
|---------------|-------|-------|
| Class I-V | | |
| Total | 26.36 | 35.90 |
| Rural | 28.63 | 41.79 |
| Class VI-VIII | | |
| Total | 51.46 | 64.21 |
| Rural | 62.36 | 86.98 |

Source : Fifth Educational Survey, 1989.

TABLE 4.15

Percentage of children aged 6-11 and 11-14 attending school by sex and rural urban residence, (1981)

| Age | Residence Group | Total | Boys | Girls |
|-------|-----------------|-------|-------|-------|
| 6-11 | Total | 47.15 | 54.88 | 38.45 |
| | Rural | 41.27 | 50.57 | 31.28 |
| | Urban | 68.83 | 72.70 | 64.71 |
| 11-14 | Total | 51.96 | 63.81 | 38.67 |
| | Rural | 45.69 | 59.52 | 30.12 |
| | Urban | 72.93 | 78.32 | 66.98 |
| 6-14 | Total | 48.72 | 58.11 | 38.52 |
| | Rural | 42.69 | 53.50 | 30.93 |
| | Urban | 70.26 | 74.66 | 65.52 |

Source : Aggarwal. Y.P, Perspectives in Education, 1987.

primary level is higher than the percentage of scheduled caste persons (15.75 percent) in the national population, signifying relatively rapid progress in this age group. The position at the upper primary level is not as good, the proportion in enrolments equalling the share in the total population. In the case of scheduled tribe children, they have a slightly higher share (8.07 per cent) in the primary level enrolment compared to their share in the national population (7.76 per cent). However, at the upper primary level they lag behind.

4.23 During the period 1978-1987, the enrolment ratio of SC girls improved from 51 to 65 at the primary level and from 14 to 27 at the upper primary level. The corresponding progress of ST girls was from 42 to 68 at the primary level and from 9 to 22 at the upper primary level.

4.24 The inter-state variations in the progress of enrolment for scheduled castes and tribes (Tables 4.24 and 4.25) show that gender differentials are pronounced, though the percentage of SC/ST out of the children enrolled at primary level is at par with, or higher than, the percentage of SC/ST in the total population.

4.25 The rural-urban divide shows up sharply in school enrolment and as a gender differential. Rural girls trail behind at both primary and upper primary levels. The rate of increase of their percent-

TABLE 4.16

Number and proportion of illiterate children aged 5-9 years, 1961,1971, 1981 and 1987-88

| (in millions) | | 5-9 years | | |
|---------------|-----------------|-----------------|-----------------|----------------|
| Sex | 1961 | 1971 | 1981* | 1987-88 |
| Total | 51.85 (80.2) | 63.03 (76.9) | 65.33 (69.7) | 54.8 (51.2) |
| Males | 24.81 (75.0) | 30.75 (73.8) | 31.53 (65.3) | 26.6 (47.2) |
| Females | 27.04 (85.6) | 32.28 (81.1) | 33.80 (74.4) | 28.2 (55.8) |

* The 1981 figures exclude Assam.

Figures in parentheses indicate the percentage of illiterates.

Source : Ministry od Education, 1983. Registrar General, Census, Social and Cultural tables, 1981. National Sample Survey 43rd round, 1987-88.

age in enrolment is relatively faster, which is significant, though attributable to the smaller base they are starting from (Table 4.14).

4.26 It has been estimated that more than three-fourths of the non-enrolled girls are to be found in the nine educationally backward states: Andhra Pradesh, Assam, Bihar, Jammu and Kashmir, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal. Excepting Assam and West Ben-

gal, these states are the most backward in literacy levels; and have lower age-specific enrolment ratios in the age group 6-10 years and 11-13 years than the national averages. By far the lowest level of elementary school participation is in Rajasthan which has around three quarters of its girls of the age-group 6-10 years, and about 90 percent of the age group 11-13 years, out of school.

4.27 Many districts across the country with low levels of enrolment of girls are heir to several other adverse socio-economic indicators as well - be it the proportion of population in poverty, lack of employment opportunity, low nutritional status, poor access to health care and physical or social isolation.

4.28 In the preceding paragraphs, school education was considered in terms of gross enrolment. For the first time, the 1981 census provided statistics on children not attending school, by single year age group. Clearly, the actual attendance of children at school is less than 50 percent of the relevant age group more so for rural girls at both the primary and upper primary stages (Table 4.15)

4.29 While the proportion of illiterate children is steadily declining, their absolute number was on the increase till 1981 (Table 4.16). Recent data from the National Sample Survey show a reduction in the absolute number of illiterate children. (Table 4.17)

4.30 The state of Rajasthan illustrates extremes in the educational situation not uncommon in most parts of many states. In 1987-88, only 52 percent of all girls in the age- group 6-11 years were enrolled in schools. Their proportion dropped to just 17 percent for the 11-14 age group. The boys fared slightly better at enrolment but this was offset by the drop-out rate. The drop-out at the primary stage was 47 percent boys and 57 percent girls; and at the upper-primary stage 67 percent boys, 75 percent girls, some 4-5 times the drop-out rate in Kerala.

4.31 This situation, reflecting not only gender disparity but also a general depression arising from the compulsions of poverty of two kinds: on the home front and in the

educational system. This also brings up the need to promote flexibility in the formal system. Also, there is the need to evolve non-formal education channels not so much as an inferior alternative but as a necessary complement and bridge to the formal schools to cater to those outside it for whatever reason. Organizing and sustaining these latter needs unusual commitment. See Chapter 3, The Learning Years . But where they do work, as night classes for example, the enrolment of girls is often closer to that of boys than in the formal schools of the same area.

TABLE 4.17

Number and proportion of illiterate children aged 10-14 years, 1961,1971, 1981 and 1987-88

| Sex | 1961 | (in millions) 10 - 14 years | | |
|----------------|------------------------|--------------------------------|------------------------|-----------------------|
| | | 1971 | 1981* | 1987-88 |
| Total | 28.47 (57.7) | 34.65 (50.4) | 37.67 (43.6) | 29.5 (30.9) |
| Males | 11.98 (45.6) | 14.68 (40.2) | 15.05 (33.2) | 12.1 (23.6) |
| Females | 16.49 (71.6) | 19.97 (61.8) | 22.42 (55.2) | 18.0 (40.8) |

* The 1981 figures exclude Assam.

Figures in parentheses indicate the percentage of illiterates.

Source : Ministry of Education, 1983. Registrar General, Census, Social and Cultural tables, 1981. National Sample Survey 43rd round, 1987-88.

4.32 The 1981 census estimates suggest that about one- third of the urban girls and two-thirds of the rural girls in the age-group 6-13 years are not attending school. Details, by state, are given in Chapter 6. Girls from lower income brackets and the lower occupational hierarchy are more likely to be withdrawn from school, as is the case commonly among the scheduled castes and tribes. Mostly, their parents too are illiterate or semi-literate and do not easily see the relevance or value of schooling, particularly for girls. Though no fees are charged at the elementary level throughout India (except by privately-owned schools), educational expenses for clothes, uniforms, books and other learning materials can be

quite heavy for poor families. And various state-administered schemes to help children from poor families do not seem to reach the vast majority of the poor. So, even when the need to send girls as well as boys to school is accepted, the direct costs of education and the compulsion to work in and outside the home tend to keep children out of school. And when it comes to a choice between children as to who should be enrolled or continue at school, sons rather than daughters are inevitably preferred for several reasons: Sons stay on with the parents, while daughters are given away in marriage. Daughters are more useful in household work. And older girls studying in mixed schools under male teachers at considerable distance from home, is not always acceptable. In villages, schools do not have lavatories, not to speak of separate facilities for girls. Also, the poor have, as a rule, access only to inferior schools; and the yield from attending them is not usually perceived as relevant to the real life situation. As has been observed, the reasoning can be paradoxical: "Just as there are agricultural situations in which a person earns more by leasing than by labouring, a less educated girl is easier to be married off than a better educated one, for her dowry is smaller". Clearly, girls'

TABLE 4.18

Time allocation revealing segregation of activities by age and sex (percent in brackets)

| Activities | Rural | | | | Urban | | | |
|---------------------------------------|-----------------|-------------------|------------------|--------------------|-----------------|-------------------|------------------|--------------------|
| | Male 5-9 yrs | Female 5-9 yrs | Male 9-14 yrs | Female 9-14 yrs | Male 5-9 yrs | Female 5-9 yrs | Male 9-14 yrs | Female 9-14 yrs |
| Total agriculture & allied activities | 1.66 (90.7) | 2.91 (52.9) | 2.32 (77.9) | 4.66 (690.8) | 1.72 (83.5) | .19 (24.1) | 5.23 (92.1) | 1.18 (25.6) |
| Total non agriculture activities | - (-) | - (-) | .16 (5.4) | 0.04 (0.5) | .21 (10.2) | .18 (22.8) | .31 (5.5) | 1.72 (37.3) |
| Total domestic activities | .17 (9.3) | 2.59 (47.1) | .50 (16.7) | 2.96 (38.7) | .13 (6.3) | .42 (53.1) | .14 (2.4) | 1.71 (37.1) |
| Burden | 1.83 (100) | 5.50 (100) | 2.98 (100) | 7.66 (100) | 2.06 (100) | .79 (100) | 5.68 (100) | 4.61 (100) |

Note : Figures in hours.

Source : Adapted from table in Devaki Jain, Nirmala Banerjee, 1985. Tyranny of the Household - Investigative Essays on Women's Work.

TABLE 4.19

Work participation rates for child workers
0-14 years, by sex 1987-88.

| | Male | Female |
|-------|------|--------|
| Total | 6.04 | 5.45 |
| Rural | 6.83 | 6.31 |
| Urban | 3.00 | 2.24 |

Source : National Sample Survey: 43rd round

labourers, small farmers and artisans. Their urban counterparts live in slums and work in a variety of low-wage and low-status occupations and casual work mostly in the unorganized sector.

4.35 According to the 1981 census, there were 13.6 million working children in the age-group 5-14 years. This appears to be an under-estimate in terms of the overall extent and the female share of it, in view of the

TABLE 4.20

Sex ratio 1901-1991 - states, India

| State/Union territory | 1901 | 1921 | 1941 | 1961 | 1981 | 1991 |
|---------------------------|------|------|------|------|------|------|
| INDIA | 972 | 955 | 945 | 941 | 934 | 929 |
| <i>States:</i> | | | | | | |
| Andhra pradesh | 985 | 993 | 980 | 981 | 975 | 972 |
| Arunachal Pradesh | - | - | - | 894 | 862 | 861 |
| Assam | 919 | 896 | 875 | 869 | 910 | 925 |
| Bihar | 1054 | 1016 | 996 | 994 | 946 | 912 |
| Goa | 1085 | 1122 | 1083 | 1071 | 975 | 969 |
| Gujarat | 954 | 944 | 941 | 940 | 942 | 936 |
| Haryana | 867 | 844 | 869 | 868 | 870 | 874 |
| Himachal Pradesh | 884 | 890 | 890 | 838 | 973 | 996 |
| Jammu & Kashmir | 882 | 870 | 869 | 878 | 992 | 923 |
| Karnataka | 983 | 969 | 990 | 959 | 963 | 960 |
| Kerala | 1004 | 1011 | 1027 | 1022 | 1032 | 1040 |
| Madhya Pradesh | 990 | 974 | 970 | 953 | 941 | 932 |
| Maharashtra | 978 | 950 | 949 | 936 | 937 | 936 |
| Manipur | 1037 | 1041 | 1055 | 1015 | 971 | 961 |
| Meghalaya | 1036 | 1000 | 966 | 937 | 954 | 947 |
| Mizoram | 1113 | 1109 | 1069 | 1009 | 919 | 924 |
| Nagaland | 973 | 992 | 1021 | 933 | 863 | 890 |
| Orissa | 1037 | 1086 | 1053 | 1001 | 981 | 972 |
| Punjab | 832 | 799 | 836 | 854 | 879 | 888 |
| Rajasthan | 905 | 896 | 906 | 908 | 919 | 913 |
| Sikkim | 916 | 970 | 920 | 904 | 835 | 880 |
| Tamil Nadu | 1044 | 1029 | 1012 | 992 | 977 | 972 |
| Tripura | 874 | 885 | 886 | 932 | 946 | 946 |
| Uttar Pradesh | 937 | 909 | 907 | 909 | 885 | 882 |
| West Bengal | 945 | 905 | 852 | 878 | 911 | 917 |
| <i>Union Territories</i> | | | | | | |
| Andaman & Nicobar Islands | 318 | 303 | 574 | 617 | 760 | 820 |
| Chandigarh | 771 | 743 | 763 | 652 | 769 | 793 |
| Dadra & Nagar Haveli | 960 | 940 | 925 | 963 | 974 | 953 |
| Delhi | 862 | 733 | 715 | 785 | 808 | 830 |
| Lakshadweep | 1063 | 1027 | 1018 | 1020 | 975 | 944 |
| Pondicherry | - | 1053 | - | 1013 | 985 | 982 |

Source : Census of India.

TABLE 4.21

Age-specific mortality rates for 0-19 year old males and females in rural and urban areas (1971-87)

| Year | Age group | Rural | | Urban | |
|------|-----------|-------|--------|-------|--------|
| | | Male | Female | Male | Female |
| 1971 | 0-4 | 53.2 | 59.3 | 31.1 | 33.3 |
| | 5-9 | 5.0 | 5.4 | 2.4 | 2.9 |
| | 10-14 | 2.2 | 2.3 | 1.6 | 1.2 |
| | 15-19 | | 2.7* | | 1.6* |
| 1976 | 0-4 | 54.2 | 55.9 | 29.0 | 30.1 |
| | 5-9 | 4.8 | 5.4 | 2.2 | 3.3 |
| | 10-14 | 2.6 | 2.6 | 1.1 | 1.5 |
| | 15-19 | | 2.9* | | 1.7* |
| 1981 | 0-4 | 43.1 | 48.0 | 20.0 | 20.9 |
| | 5-9 | 4.1 | 5.0 | 1.7 | 1.7 |
| | 10-14 | 1.8 | 1.8 | 1.6 | 1.4 |
| | 15-19 | | 2.6* | | 1.6* |
| 1986 | 0-4 | 38.6 | 43.3 | 20.3 | 21.5 |
| | 5-9 | 3.3 | 4.2 | 1.6 | 1.8 |
| | 10-14 | 1.6 | 1.8 | 0.9 | 1.1 |
| | 15-19 | 2.1 | 2.9 | 1.5 | 1.9 |
| 1987 | 0-4 | 37.8 | 41.8 | 18.1 | 18.2 |
| | 5-9 | 3.3 | 4.4 | 1.3 | 1.9 |
| | 10-14 | 1.6 | 1.6 | 1.1 | 0.9 |
| | 15-19 | 2.2 | 2.7 | 1.2 | 1.8 |

Note : * Male and Female combined.

Source: 1. Ministry of Health & Family Welfare
2. Registrar General

earlier (1978) figure of 16.3 million provided by the 32nd round of the National Sample Survey (NSS). In 1983, the Planning Commission estimated it to be at 17.4 million. On the basis of the National Sample Survey Worker's Participation ratios for this age group as revealed by the 43rd round (1987-88), the number of working children could be estimated at 17.1 million. These estimates refer to children mainly engaged in wage labour and this figure must have gone up with time. Of children who work as domestic workers, non-domestic workers paid in kind, bonded child labour and children engaged in marginal economic activities, there are no reliable estimates,

though their number appears to be large. Many employers do not admit that children are working for them, particularly when they are under-age. There are reasons to hold that a majority of girls who work for a wage, or without it, are not represented, for definitional or other reasons, in any of the estimates just mentioned.

4.36 According to the 1981 census, the proportion of girls in the age-group 6-11 years working for a wage, as main or marginal workers, is small: 3.7 percent in rural areas, 1.3 percent in urban areas. As can be expected, work force participation rates for girls in the age-group 11-13 years are higher for both rural and urban areas, at

TABLE 4.22

Mean intakes (%RDA) of energy and protein by women and girls at different ages in different states.

| States | Energy | | | | | | | Protein | | | | | | |
|----------------|-----------|------|-----------|-------|------------|-------|-------|-----------|-------|-----------|-------|------------|-------|-------|
| | Preschool | | Schoolage | | Adolescent | | Adult | Preschool | | Schoolage | | Adolescent | | Adult |
| | 1-3 | 4-6 | 7-9 | 10-12 | 13-15 | 16-18 | | 1-3 | 4-6 | 7-9 | 10-12 | 13-15 | 16-18 | |
| Kerala | 52.5 | 55.9 | 57.8 | 55.8 | 64.3 | 64.2 | 77.1 | 64.0 | 72.3 | 58.2 | 45.1 | 49.3 | 49.0 | 68.4 |
| Tamil Nadu | 79.0 | 65.6 | 71.2 | 79.9 | 80.8 | 87.8 | 96.6 | 105.1 | 89.8 | 79.8 | 55.6 | 66.7 | 68.9 | 87.6 |
| Karnataka | 89.5 | 90.6 | 90.5 | 99.7 | 104.2 | 107.3 | 129.6 | 113.4 | 129.7 | 100.5 | 85.6 | 87.1 | 84.2 | 127.2 |
| Andhra Pradesh | 71.5 | 71.4 | 71.8 | 71.1 | 75.2 | 83.3 | 99.9 | 85.4 | 97.0 | 78.3 | 56.5 | 58.7 | 71.6 | 90.2 |
| Maharashtra | 65.5 | 76.8 | 76.3 | 77.0 | 76.7 | 77.6 | 100.0 | 86.0 | 120.0 | 89.8 | 70.6 | 73.1 | 68.4 | 106.6 |
| Gujarat | 83.5 | 78.6 | 68.7 | 90.5 | 83.3 | 80.2 | 97.1 | 108.7 | 113.6 | 79.7 | 65.7 | 75.9 | 69.8 | 99.0 |
| Madhya Pradesh | 86.6 | 69.6 | 77.3 | 69.9 | 78.6 | 83.1 | 98.7 | 135.6 | 115.7 | 103.5 | 68.5 | 80.1 | 84.1 | 114.6 |
| Orissa | 63.2 | 65.1 | 74.4 | 71.3 | 76.3 | 92.5 | - | 75.6 | 84.4 | 74.1 | 51.2 | 57.0 | 72.1 | - |
| West Bengal | 63.9 | 69.4 | 65.7 | 65.1 | 72.1 | 76.4 | 88.6 | 86.0 | 103.7 | 76.8 | 55.8 | 60.5 | 62.5 | 66.8 |
| Uttar Pradesh | 58.6 | 63.5 | 61.1 | 71.4 | 65.5 | 88.6 | 96.2 | 96.2 | 116.5 | 90.1 | 73.7 | 66.7 | 96.1 | 114.8 |

RDA - recommended daily allowance

Source : NNMB Rural Surey, 1975-80.

24.3 percent and 9.3 percent respectively. The rural work force participation rates for both the age-groups are far higher than the corresponding urban figures. Like their male counterparts, most working girls, over 86 percent, worked in the primary sector, namely, in agriculture and allied activities in the case of rural girls. The census figures also suggest that it may be difficult for children to engage in economically productive activity as well as to attend school. For, only about two percent of the rural girl workers and one percent of the urban girl workers in the school going age of 6-13 years were attending school.

4.37 The picture of prevalence of child labour, state by state, is hazy. Hardly any estimate is available for, say, Bihar. Some states, like Rajasthan, are known to have a high proportion of children working for a living. The figure of 0.8 million (45 percent of them girls) in that state may well be an under-estimate for reasons of access to information.

4.38 The practice of engaging children, more girls than boys, for domestic help is rampant in practically all the states. A 1977-78 National Sample Survey estimate put the

magnitude at 1.68 million girls and 0.62 million boys, a proportion which may still be valid but the levels would have risen substantially since then. Starting early and working long hours there are few occupations less regulated, less organized, less paid, less secure, less dignified and less developmental than domestic menial work more so when it comes to children.

4.39 The social reality of girls put to unskilled work, rather than allowed to learn is reflected in the amount of time spent on a variety of work as illustrated by Table 4.18 derived from work participation data from rural families in Rajasthan and West Bengal. It is seen that on the average, a 9-14 year old rural girl spends nearly 8 hours every day in productive and domestic work to maintain her family, compared to less than 3 hours put in by a boy of that age. This aspect of the life of the young female remains largely unrecognized and without response on any socially significant scale.

4.40 Available data show that from an early age girls and boys participate in almost all adult activities within the family. Older children work longer hours than the younger children. In Rajasthan, the girls

TABLE 4.23

Enrolment of scheduled castes (total and girls) at various school stages

| State/ Union Territory | Classes I-V | | Classes VI-VIII | | |
|---------------------------|---|----------------------------------|----------------------------|----------------------------------|-------------------------------|
| | % of SC in total population (1981) | % of SC in Total enrolment | % Girls in SC enrol. | % of SC in Total enrolment | % Girls in SC enrolment |
| Andhra Pradesh | 14.87 | 21.65 | 46.69 | 20.50 | 35.99 |
| Arunachal Pradesh | 0.46 | 0.80 | 40.62 | 0.47 | 32.09 |
| Assam | 6.24 | 10.57 | 43.86 | 9.40 | 40.48 |
| Bihar | 14.51 | 12.16 | 26.87 | 9.42 | 19.40 |
| Goa | 2.16 | 2.47 | 46.18 | 1.37 | 40.01 |
| Gujarat | 7.15 | 9.34 | 43.11 | 9.61 | 36.84 |
| Haryana | 19.07 | 21.15 | 42.19 | 14.38 | 24.77 |
| Himachal Pradesh | 24.62 | 24.58 | 43.69 | 19.65 | 37.95 |
| Jammu & Kashmir | 8.31 | 8.69 | 40.56 | 8.39 | 35.05 |
| Karnataka | 15.07 | 15.81 | 43.61 | 12.80 | 36.53 |
| Kerala | 10.02 | 11.26 | 48.36 | 13.10 | 47.63 |
| Madhya Pradesh | 14.10 | 18.44 | 35.92 | 17.31 | 21.64 |
| Mahrashtra | 7.14 | 13.86 | 43.87 | 13.36 | 36.27 |
| Manipur | 1.25 | 1.62 | 49.87 | 1.39 | 52.25 |
| Meghalaya | 0.41 | 1.08 | 49.13 | 1.31 | 41.20 |
| Mizoram | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 |
| Nagaland | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Orissa | 14.66 | 17.26 | 39.94 | 12.01 | 29.76 |
| Punjab | 26.87 | 32.43 | 42.92 | 22.82 | 37.27 |
| Rajasthan | 17.04 | 16.74 | 22.53 | 13.39 | 9.41 |
| Sikkim | 5.78 | 6.43 | 46.28 | 4.53 | 44.01 |
| Tamil Nadu | 18.35 | 20.18 | 44.98 | 18.69 | 40.10 |
| Tripura | 15.12 | 17.70 | 44.59 | 15.39 | 39.20 |
| Uttar Pradesh | 21.16 | 20.08 | 29.98 | 16.77 | 20.46 |
| West Bengal | 21.99 | 24.80 | 41.60 | 18.77 | 33.90 |
| A & N Islands | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Chandigarh | 14.09 | 19.65 | 39.80 | 14.77 | 38.87 |
| Dadra & Nagar Haveli | 1.97 | 4.29 | 45.95 | 7.93 | 45.51 |
| Daman & Diu | * | 3.69 | 51.23 | 4.23 | 36.03 |
| Delhi | 18.03 | 21.20 | 44.07 | 16.40 | 41.97 |
| Lakshadweep | 0.00 | 0.05 | 75.00 | 0.03 | 0.00 |
| Pondicherry | 15.99 | 17.43 | 51.14 | 14.99 | 41.65 |
| All India | 15.75 | 17.35 | 39.05 | 14.94 | 31.40 |

Source: Computed from Fifth Educational Survey Data, 1989.

worked longer than boys. The reverse was the case in West Bengal. Girls from Rajasthan worked not only longer but were involved in all agricultural activities except ploughing and irrigation. In both Rajasthan and West Bengal, girls spent more time on domestic work than boys. While younger girls spent fewer hours than older girls in both Rajasthan and West Bengal, the former spent 47.1 percent and 53.1 percent

of their working time on household work. Older girls in the two states spent 38.7 percent and 37.1 percent of their work time on such activities.

4.41 The reality is that many girls from poor rural families are, in fact, unrecognized child labourers. Working for most part within or outside home, their tasks include a variety of work and responsibility, such as

TABLE 4.24

Enrolment of scheduled tribes (total and girls) at various school stages

| State/ Union Territory | Classes I-V | | Classes VI-VIII | | |
|---------------------------|-----------------------------------|---------------------------------------|------------------------------------|---------------------------------------|------------------------------------|
| | % of ST in total population | % of ST in total enrol- ment | % Girls in ST enrol- ment | % of ST in total enrol- ment | % Girls in ST enrol- ment |
| | (1981) | | | | |
| Andhra Pradesh | 5.93 | 4.78 | 40.85 | 2.30 | 25.64 |
| Arunachal Pradesh | 69.82 | 74.41 | 39.37 | 75.93 | 34.92 |
| Assam | 10.99 | 25.41 | 45.73 | 13.18 | 41.80 |
| Bihar | 8.31 | 8.52 | 34.58 | 6.79 | 28.02 |
| Goa | 0.99 | 0.09 | 41.60 | 0.05 | 58.33 |
| Gujarat | 14.22 | 14.47 | 41.78 | 11.05 | 36.80 |
| Haryana | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Himachal Pradesh | 4.61 | 3.89 | 39.47 | 3.05 | 31.66 |
| Jammu and Kashmir | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Karnataka | 4.91 | 3.52 | 42.54 | 2.99 | 36.31 |
| Kerala | 1.03 | 1.13 | 47.79 | 0.77 | 47.58 |
| Madhya Pradesh | 22.97 | 18.53 | 34.39 | 12.49 | 19.95 |
| Maharashtra | 9.19 | 9.13 | 41.12 | 5.78 | 31.78 |
| Manipur | 27.30 | 33.63 | 45.69 | 22.29 | 43.68 |
| Meghalaya | 80.58 | 91.11 | 49.88 | 89.22 | 48.47 |
| Mizoram | 93.55 | 100.00 | 47.64 | 100.00 | 48.91 |
| Nagaland | 83.99 | 97.78 | 47.49 | 97.18 | 43.84 |
| Orissa | 22.43 | 18.52 | 36.51 | 10.13 | 26.74 |
| Punjab | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rajasthan | 12.21 | 10.52 | 22.05 | 8.45 | 8.50 |
| Sikkim | 23.27 | 21.26 | 46.92 | 20.36 | 48.68 |
| Tamil Nadu | 1.07 | 0.95 | 44.86 | 0.62 | 41.45 |
| Tripura | 28.44 | 28.80 | 40.40 | 20.84 | 35.96 |
| Uttar Pradesh | 0.21 | 0.25 | 35.42 | 0.20 | 25.51 |
| West Bengal | 5.63 | 5.05 | 37.60 | 3.33 | 24.89 |
| A & N Islands | 11.85 | 9.09 | 46.64 | 9.57 | 42.47 |
| Chandigarh | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Dadra & Nagar Haveli | 78.82 | 82.15 | 38.84 | 70.43 | 33.44 |
| Daman & Diu | * | 15.01 | 46.76 | 8.05 | 33.19 |
| Delhi | 0.00 | 0.11 | 50.05 | 0.08 | 43.47 |
| Lakshadweep | 93.82 | 96.29 | 46.46 | 92.20 | 40.33 |
| Pondicherry | 0.00 | 0.00 | 50.00 | 0.00 | 0.00 |
| All India | 7.76 | 8.07 | 38.57 | 5.07 | 30.18 |

Source: Computed from Fifth Educational Survey Data, 1988.

fetching water and fuel, tending cattle, cooking, sweeping, washing clothes and looking after younger children. Even though they are not wage earners, they do make a silent unreckoned economic contribution to the maintenance of their families. Studies on the widespread phenomenon of school drop-out indicate

that this is the major reason why girls are not enrolled at school or withdrawn from it. It would appear that more girls are withdrawn to do household work than boys.

4.42 A comparison of the work participation rate (percentage of child workers to total child population) of male and female

children shows that between 1971 and 1981, there has been an increase in the rate of girls compared to boys. In this context, it has been noted that female work participation rates tended to be underestimated in the 1981 census, since female respondents did not consider household work as productive work. Though not strictly comparable, estimates of work participation rates from the National Sample Survey (1987- 88) are given in Table 4.19. The sub-human conditions in which male

and female children often work and wear themselves out in the organized or unorganized sectors is discussed in the Chapter 3. The relevant point to highlight here is that the majority of the children, prominently including girls, have to work in order to live, irrespective of the conditions of such work, returns from it or its formal recognition by society. This situation clearly arises from the prevailing social-economic-cultural system. And, it tells on the life and future of girls and therefore of succeeding generations.



Chapter 5

The Young Woman

Capacity to Cope

5.1 This chapter, like the others in Part I, is concerned not so much with the systems surrounding and conditioning human life, as with their net effect on a particular stage of the life-cycle. As seen in the previous chapter, the distinction between adolescence and adulthood tends to wear thin between the upper millstone of economic poverty and the lower millstone of socio-cultural practices. This is doubly so in the case of girls. Within a context of overall poverty, gender-selective death rates, low food intake and nutritional status, deficiency disorders and social constrictions, and limited access to health care and learning opportunities, girls are at a sharper disadvantage than boys. Such is the feeble foun-

dation, laid during girlhood, on which is based the capacity of the young woman to cope with the adult life situation.

Early marriage

5.2 As noted earlier, whether a girl likes it or not, the first charge on her life seems to be marriage. As will be seen in Part II, the law has been tightening, towards the minimum age of marriage of 18 years for the girl and 21 years for the boy. Improvement in the situation has however been so slow that generations of girls continue to marry young and reproduce early. The practice of child marriage continues in some states, sometimes with betrothal taking place at

TABLE 5.1

Selected nuptiality indicators –India and states, 1971 and 1981 (Census).

| State/Union Territories | Singulate mean age at marriage | | | |
|-------------------------|--------------------------------|-------|-------|--------|
| | Female | | Male | |
| | 1971 | 1981 | 1971 | 1981 |
| Andhra Pradesh | 16.22 | 17.25 | 22.71 | 23.02 |
| Bihar | 15.27 | 16.53 | 19.84 | 21.47 |
| Gujarat | 18.43 | 19.51 | 22.21 | 23.09 |
| Haryana | 16.64 | 17.87 | 20.52 | 21.67 |
| Karnataka | 17.80 | 19.20 | 25.03 | 25.86 |
| Kerala | 21.01 | 21.85 | 26.74 | 27.19 |
| Madhya Pradesh | 14.99 | 16.52 | 19.72 | 20.57 |
| Maharashtra | 17.54 | 18.76 | 23.57 | 24.28 |
| Orissa | 17.29 | 19.04 | 22.57 | 24.17 |
| Punjab | 20.18 | 21.04 | 23.32 | 24.40 |
| Rajasthan | 15.07 | 16.09 | 19.52 | 20.35 |
| Tamil Nadu | 19.58 | 20.22 | 25.92 | 25.97 |
| Uttar Pradesh | 15.45 | 17.77 | 19.30 | 20.86 |
| West Bengal | 17.92 | 19.26 | 24.28 | 25.66 |
| All India | 17.16 | 18.32 | 22.36 | 23.27* |

* Excludes Assam

Source : Registrar General

birth. These marriages are consummated soon after the girl reaches puberty. As a cumulative consequence, in the 1990's, there will be more adults in their peak reproductive years than ever before. This makes reduction of the rate of population growth difficult—even if marital fertility is brought down.

5.3 Among the lowest in the world, the mean age at marriage for girls has moved up from 13.02 years at the beginning of the century by some five years in eight decades. The 1981 census figures show that the mean age was 18.3 years, that is, the mean number of years girls remain single (Table 5.1). This average masks wide inter-state variations and intra-state differentials between communities and socio-economic levels. True, the proportion of married girls in the age-group 15-19 years fell during the 1970s by a quarter of the level of 55 percent in the 1960s. All the same, even in 1981, every other girl in the rural areas and every fourth girl in the urban areas, between 15 and 19 years, was married. By 1987-88, the situation had not materially changed and the percentage of

married girls in this age group was estimated at 44 percent in rural areas and 21 percent in urban areas. The percentage of married girls of this age was well over 60 in Rajasthan, Bihar, Madhya Pradesh and Uttar Pradesh, with Andhra Pradesh following closely. In addition to inter-state variations, urban-rural, location-specific and social group differences are known to exist within each state. For the country as a whole, 6.59 percent of girls between 10 and 14 years were married, and another 0.06 percent of them widowed or divorced, according to the 1981 census. The psychological pressures on the girl and the financial distress for the parents involved in the prevailing customs of marriage, like dowry, are regularly, perhaps not fully, reflected in the daily press. The practice of dowry probably started as the bride's share of her ancestral property given as she left her parents' home but it seems to have turned into a continuing cause for contention and harassment by the husband's family. Beneath the extreme cases of killing or suicide brought to light, lie layers of silent suffering. This is an area that awaits

sociological understanding and social action.

5.4 Teenage pregnancy interrupts the physiological growth which brings a girl to her full stature. As of 1981, 7 percent of girls in the age group 10-14 years and 43 percent in the age group 15-19 years were already married. In 1987-88, this proportion was around 4 percent and 37 percent for the two age groups respectively pointing to an increase in the age of marriage. An estimated eight percent of the 26-27 million annual births are attributed to mothers below 19 years. With their malnourished status, small pelvis, undernutrition and overwork, these mothers run a high risk during pregnancy, give birth to low weight babies and themselves suffer prolonged ill-health. Girls who marry before the age of 18 are twice as likely to end up with a large family as those who marry after completing 20 years. And they not only face much higher risk in first pregnancy but invite health risks over their life time.

5.5 Scientists have estimated that though Indian girls attain reproductive capacity around 16-19 years, sexual maturity and growth stability come only around 18 or 19 years of age. Differences in body size of female and male adults, as between different regions of the country, pertain more to the poor sections of the population than to the affluent, according to earlier studies by the National Institute of Nutrition. For example, the poor of West Bengal, Uttar Pradesh, Tamil Nadu and Kerala could be worse off than the poor of Punjab, Haryana and Maharashtra. Also, better use of health and family planning services do not compensate for the effects of economic and nutritional deprivation. Thus the "better survival" of women of the reproductive age in Kerala does not necessarily reflect their better physical or nutritional status (much the same way 'better child survival' in that state does not mean better child nutrition: see Chapter 2).

5.6 Technical opinion categorises women with weight and height below a certain minimum (set down specifically for underdeveloped countries), as being at risk for pregnancy. Even accepting a lowered yardstick for women in the poorer countries, their proportion is large. For ex-

ample, based on the National Nutrition Monitoring Bureau data for 1974-79, some 20-34 percent women in Kerala in the reproductive age group weigh less than 38 kg. The proportion in West Bengal is worse at 29-43 percent. That for the other states is not far different. In relation to the minimum height of 145 cm that is considered safe, 20-30 percent of women in the relevant age-group in Kerala and 21-29 percent in West Bengal come below this level. Gujarat comes off better with 15-20 percent below the minimum weight and 12-16 percent below the minimum height. While body size of the mother is a determinant of child health, it can be assured only through sustained all-round improvement of the competence of the mother-to-be – which includes her physical condition, economic status, health and nutrition and education. Clearly, and as confirmed in Chapter 1 on Unsafe Motherhood, it may be too late if attention starts after the woman is on the way to be a mother or has become one.

Diminishing returns

5.7 In absolute terms, the female labour force has grown from about 78.6 million in 1973 to 88.9 million in 1978 and 99.4 million in 1983 – an average annual addition of 2.1 million. However, their participation rate, in proportional terms, has declined drastically from 33.7 percent in the 1911 census to 20 percent in the 1961 census. Even with the new and broader definition of work, the rate has improved but marginally from 12.06 percent to 13.99 percent between 1971 and 1981. During this period, the percentage of female workers increased slightly in the primary, secondary and tertiary sectors of the economy. Among females, however, the proportion of those engaged in the primary sector decreased by 1.4 percent, whereas it increased by 1.2 percent and 0.2 percent respectively in the secondary and tertiary sectors. The increase in female employment in these latter sectors has nevertheless been slower than for males. The labour market is clearly not neutral as between women and men.

5.8 In responding to the trends as outlined above, problems arising from the invisibility, under-valuation and under-recording of work done by women must be

TABLE 5.2

Percentage of women employed in organized sector.

| Year | 1970 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|------------|------|------|------|------|------|------|------|------|
| Percentage | 11.1 | 12.1 | 12.2 | 12.3 | 12.5 | 12.6 | 13.0 | 13.1 |

Source : Directorate General of Employment and Training.

reckoned. The weakness of the data base is compounded by lack of clarity on what constitutes 'work'. For example, only 14 percent of the total female population in the country fell within the category of workers according to the 1981 census. The consequences of this partial perception, (including women's self-perception), of their contribution come in the way of supporting and strengthening their role, particularly in the sprawling unorganized sector of the economy.

5.9 The organized sector in India (which consists of the public sector and the non-agricultural private sector) absorbs less than an eighth of the work force of the country. Within this limited share, the proportion of women, as of 1978, was around 12 percent. As seen from Table 5.2, this level has improved slowly but not changed much. Nor is the employment potential of the relatively capital-intensive organised sector known to have increased.

5.10 This situation leaves the majority of the rural and urban poor to the rough and tumble of the vast unorganized sector, which defies standard definitions like employer, employee, labour, capital, rent and interest. According to the National Commission on Self-employed Women, 94 percent of the total female workforce operate within this highly exploited sector, characterized by low earnings, long hours of work, low productivity, low skills, lack of security, no legal safeguards and hardly any workers' organization. The concentration of impoverished women in this sector is explained by the nature of the economic structure and social relations.

5.11 Some documented evidence is lately available of the realities of the daily lives of nearly 100 million toiling women in, or close to poverty in the unorganized sector of the economy. Complementing the data from

the Census and field observations are the results of the 1987 survey of women workers in poverty, organized by the National Commission on Self-employed Women and conducted by mostly voluntary women investigators eliciting some 150,000 responses. Somewhat different from the yield of the Census and National Sample Surveys, the emerging picture is captured by Tables 5.20 to 5.30). The most pertinent aspects are the problems specific to wage and non-wage employment encountered by women workers. In wage employment, more than half the respondents received wages below the subsistence level. Irregular, uncertain, seasonal and discretionary employment, malpractices in payment including non-payment of wages on time, signature on inflated amount, commission extorted while making payment and even while providing employment and payment in kind with minimal and inferior goods. The relative incidence of irregular employment was highest in agriculture (49 percent), followed by construction work (46 percent) and collection of goods (42 percent). In the case of non-wage employment, the most common problem (5 percent) related to lack of access to raw material and capital goods, including inferior, insufficient, irregular supplies, exorbitant prices and absence of storage facilities. There were related problems of marketing (in 26.8 percent cases) and credit (18 percent). Uneconomic selling price, harassment and cheating by middlemen, difficulty and expense in obtaining vending licence and space were not uncommon. Lack of access to raw materials and tools was common in agriculture in over 63 percent cases, collection of goods (58 percent) and horticulture (57 percent).

5.12 Reflective of the prevailing social climate, there were problems common to both wage and non-wage employment: ex-

exploitation and harassment by family members, employers, contractors, officials and the community; lack of day care of children, medical care and sanitation and improper working conditions; lack of facilities for education, training, organization and guidance; lack of access to own earnings and misuse of income by husband, including alcoholism; and absence of maternity benefits, provident fund or compensation for injury. Underlying this long list of predictable problems is the conspicuous absence of organizational solidarity among workers in the unorganized sector, more so among women workers.

5.13 Numerous studies testify to almost institutionalised discrimination against women workers and to hurdles faced by them, more so in the case of women belonging to the scheduled castes and tribes and to other depressed categories. The higher workforce participation among the scheduled castes (36 percent against 32 for the rest) reflects not so much economic progress as survival struggle, entering the workforce early and not being able to retire.

5.14 A typical experience of the economic dilemma faced by poor women is provided by an experiment in generating income for poor tribal women in Bharuch, one of the least developed districts of Gujarat. The women were from landless families precariously surviving on low-yield agriculture as daily wage earners. Unusually without any particular skills, an experimental choice of supplementary activity fell on yarn spinning. After a period of training the tribal women could earn about Rs.8 from a 8-hour day. But soon the constraints emerged too formidable to be contained: gaps in the technology of the 'ambar charkha' which was an upgraded version of the gandhian spinning wheel; poor quality of the supply of slivers and therefore of the yarn produced; low level of health and energy of the women workers; unusual burden imposed by sedentary work on tribal women who were used to activity out in the open; frequent interruption to work on account of the need to care for young children; daily earnings falling below the statutory minimum wage of Rs. 9 a day; the spinning wheel being too complicated a

machine for tribal women to set right even minor disorders. All these raise two broad issues: The prevailing strategy of rapid modernization centered on, and propelled by urban-based industrialization, renders obsolete whatever human skills and resources are available in rural areas; and second, technical problems that tend to depress the productivity of the spinning wheel have not engaged expert attention possibly because spinning is done mostly by women. What is worse, the dominant competing ideologies of development (bureaucratic planning versus private enterprise) do not seem in effect to differ in perceptions on issues of this nature.

5.15 Apart from the dismal economics of women's work, there is a social reality hidden by the general trend of slow improvement in conventional parameters like literacy and mortality rates, per capita income, land distribution and service infrastructure. A study focused on the conditions of living of women in Himachal Pradesh, for example, suggests a world of difference between the view from outside and a look inside ordinary homes. The 'fruits' of such development as have come are appropriated by men, further accentuating the work burden of women without at least assuring them a life of peace and dignity in acknowledgement of their quiet contribution to the family and the economy. Further, the development process seems to entail social costs by way of environmental degradation and diminished health. The felling of forests and reliance upon indirect tax on alcohol are typical examples of these costs which are being borne unequally by women. For they have to search farther and walk longer to meet the daily necessities like fuel, fodder and water—in addition to their having as before to work much harder than men in agriculture, animal husbandry and allied activities. Yet they do not have better access to improved knowledge, technology or institutional credit. If they are lucky they are treated well. If not, life can become a virtual nightmare of humiliation, insecurity and physical abuse. In the isolation of their homes in remote villages, it is not unusual that women are beaten, thrown out, raped by other family members, deprived of minimal food and clothing and

TABLE 5.3

Expectation of life at birth for 1981-2001, India.

| Period | Projected value of expectation of life at birth | | |
|------------------|---|-------|---------|
| | Persons* | Males | Females |
| 1980 (base year) | 54.4 | 54.1 | 54.7 |
| 1981-86 | 56.0 | 55.6 | 56.4 |
| 1986-91 | 58.6 | 58.1 | 59.1 |
| 1991-96 | 61.2 | 60.6 | 61.7 |
| 1996-2001 | 63.5 | 62.8 | 64.2 |
| 2001 | 64.9 | 64.1 | 65.6 |

* Estimated by taking sex ratio as 105 males to 100 females.

Source : Report of the Expert Committee Population Projection, occasional, paper no. 4 of 1981.

subjected to mental torture. The number of unnatural deaths of women and violence against women within the family appears to be on the rise. The cultural explanation for this situation is that a patriarchal society defines woman's status primarily as that of a producer of male progeny for the continuity of the family.

Violence against women

5.16 A telling example of the effects of environmental decline in particular on women's life (and therefore on child life) is provided by Rajasthan where desert-like conditions are aggravated by extensive drought year after year. Inadequacy of fuel leads not only to greater labour for women in the collection of wood but a shift to foods that are less fuel-consuming but often of lower nutritional value. The lack of safe water in quantity only adds to their travail.

5.17 Cases of violence, on one count or another, as reported in the daily press, show the phenomenon is not confined to interior villages, or for that matter to the poor in towns and cities. True, the status of women is of a higher order in some states like Kerala in the south, Manipur in the northeast and certain tribal communities in other parts of India, where women have been well-regarded by society, which might

have had a matriarchal and matrilineal system. All the same a distant view of the condition of women in these pockets may present a picture more rosy than real. For example, the rural female literacy rate in Manipur (1981) is about half the male rate. Even in the few states, with relatively high "social consumption" and somewhat flattering levels of birth and death rates, life expectancy, literacy and social services, the 'dowry' has entered the scene in new and extra-legal forms, casting an impossible financial burden on parents with daughters of marriageable age. The extent of educated unemployment complicates this problem. Girls seek jobs and men want their wives to work. The job is the dowry. But there are not enough jobs, with economic development lagging severely behind the social factors of development. Women and men qualified as engineers are, for example, forced to take up traditional jobs like teachers and receptionists, with a negative effect down the employment ladder. Migration is a way out, but has its severe limits. Men and women face the resultant crunch, but women are by far the worse off. This situation in the "socially advanced" segments of the population has a trickle effect down the pyramid, with more and more families and their daughters themselves facing an almost impossible psychological and financial burden. The nature and extent of the gender-specific adversities adding up to the low autonomy of women in India may vary from place to place, but direct and indirect evidence points to their widespread presence. An extra element is added to this situation, when women are suddenly called upon to head and manage a household, consequent on their men migrating in search of employment.

Rate of survival

5.18 Among the positive changes that have occurred recently in relation to women are (a) their recent overtaking of men in life expectation and (b) the lowering of the age (from 50 to 35 years) from which onwards age-specific female mortality rates fall below the corresponding male mortality rates. See Tables 5.3 and 5.4. While these inter-related demographic trends reflect a slow return to the natural biological ad-

vantage in the survival capacity of the female, they may not necessarily signify an improvement in the status of women. Until 1981, the inter-censal estimate of expectation of life for males was higher than that of females, indicating higher overall mortality levels for the latter. The 'sample registration' data for that year showed that the female expectation of life marginally exceeded that of the male for the first time, the estimates being 54.1 (males) and 54.7 (females). This overtaking would have happened sometime in the course of the 1970's. The other side of the story was revealed by the 'sample registration' data for 1984, by when female death rates dropped below the male death rates after the age of 35 years— for the country as a whole. This is significant in that historically, females have had higher mortality rates than males—until after the age of 50. There are substantial inter-state variations in this improvement in the national average. Where the overall level of mortality is low, as in Kerala, the female death rates are lower than the male death rates from the age of 10, while in Uttar Pradesh the change occurs only after the age of 45.

5.19 Incidentally, field studies in several states show that an improvement in women's employment and income status makes a critical difference to daily nutritional adequacy for children among low income households—female children being particularly dependent on mothers' wages. This wholesome trend is often disturbed by vagaries of life in impoverished communities—like seasonality of employment centered on agriculture, absence of sup-

port facilities for child care linked to women's work, general lack of access to health care and gender discrimination in intra-household distribution of available food office with the acquiescence of older women.

Access to energy

5.20 In the absence of reliable data, the health-and-nutrition status in the post-adolescence phase can be appraised only indirectly. It cannot but be a carry-forward of a certain load of malnutrition, retardation in physical and mental growth and development, disease, disability and risk of death, accumulated right from life before birth through infancy, childhood and adolescence. After allowing for the extent of infant and child mortality and severe and milder forms of undernutrition and ill-health among children, it has been estimated that less than 15 percent of the children born each year would have achieved their full genetic potential for physical and mental growth and development. The percentage would be even less in the case of girls reaching womanhood, raising serious questions about the quality of future generations. Health planners reckon that at any given time, 12-15 percent of Indians are on the sick-list (general morbidity rate). More than two-thirds of the illness are accounted for by communicable diseases. Of these some two-thirds arise from insanitary environment and poor hygiene. Researchers seem to agree that the health services in the country are used by well below half the population in need. These basic facts are

TABLE 5.4

Age specific death rates by broad age group for males and females, and relative risk of dying for females to males, India rural, 1981, 1986.

| Age Groups | 1981 | | | 1986 | | |
|------------|------|--------|---------------|------|--------|---------------|
| | Male | Female | Relative risk | Male | Female | Relative risk |
| 0 - 4 | 39.2 | 43.3 | 1.10 | 34.7 | 38.6 | 1.11 |
| 5 -14 | 2.7 | 3.1 | 1.15 | 2.2 | 2.7 | 1.22 |
| 15-34 | 2.5 | 3.6 | 1.44 | 2.5 | 3.2 | 1.31 |
| 35-49 | 6.7 | 5.5 | 0.82 | 6.6 | 4.7 | 0.72 |
| 50 + | 37.8 | 32.8 | 0.87 | 35.0 | 30.3 | 0.86 |

Source : Registrar General : Sample Registration System, 1981 and 1986.

sharply mirrored in the health status of women. However, very little attention is paid by medical science to illnesses specific to the female, as distinct from conditions related to pregnancy. Dietary surveys have shown that the intake of women in low income groups is deficient by 500-600 calories. See Chapter 1 on Unsafe Motherhood. This is more severe in certain occupational groups like landless labourers whose numbers are large and increasing, as discussed in Part II. While the consequences of this condition, especially general malnutrition and anaemia, come to be felt as women enter motherhood and go through repeated pregnancy, information on health-and-nutrition is generally not forthcoming during a period when older girls and very young women are expected, above all, to get married.

5.21 The gender bias strongly runs across the health system as through the social and economic structures. It is known that few women venture to visit a health centre, clinic or hospital if they can help it. Despite higher morbidity among females, more treatment is sought for males, higher percentages of ailing men than women get treatment and a higher proportion of services are provided to men. A 1982 study of primary health centres in Rajasthan showed five men seeking medical treatment for

every woman. The same year it was found in the villages of Uttar Pradesh that only 9 percent of cases of female illnesses sought help from a public health facility, the vast majority seeking traditional remedies. In a 1979 survey in Madhya Pradesh, over half of all current, serious illnesses reported, affected females. While treatment was sought for in about half the cases, only 15 percent of the patients went to a government health centre.

5.22 Malnutrition and ill-health are traceable partly to economic causes and partly to educational factors. For, even in poverty, the health and nutrition status would be appreciably better, if people knew what to do about it. This is perhaps the tallest hurdle facing the silent majority in India, particularly women. And that brings up the question of their access to learning opportunities.

Effects of education

5.23 At the time of Independence in 1947, female literacy rate was a mere 6 percent. Over the years, however, there has been a steady improvement in the literacy rates as shown in Table 5.5. But while the literacy rates have gone up, the total number of illiterates has also gone up. Table 5.6 shows the increase in the absolute numbers of illiterates so that by 1981 the total number of female illiterates (inclusive of 0-4 age-group) rose from 185 million in 1961 to 215 million in 1971 to 242 million in 1981. This backlog is estimated to have further swollen to 253 million in 1988 notwithstanding the reported rise in the female literacy level (from 25 percent to 34 percent since 1981 – as against 47 percent to 55 percent for males) according to the 1987-88 National Sample Survey. If children in the 0-4 age group are excluded, then the effective literacy rates for females was 28.5 percent, while for males it was 53.5 percent as of 1981. In 1987-88, the corresponding rates could be estimated at 37.1 for females and 61.5 for males. Of the 340.5 million illiterates above 5 years in India in 1981, as many as 200.3 million were women. Of them, 170.7 million lived in rural areas. In other words, more than half of the total illiterates in India were rural females: Table 5.7. And, there has been no significant im-

TABLE 5.5

Literacy rates (all ages).

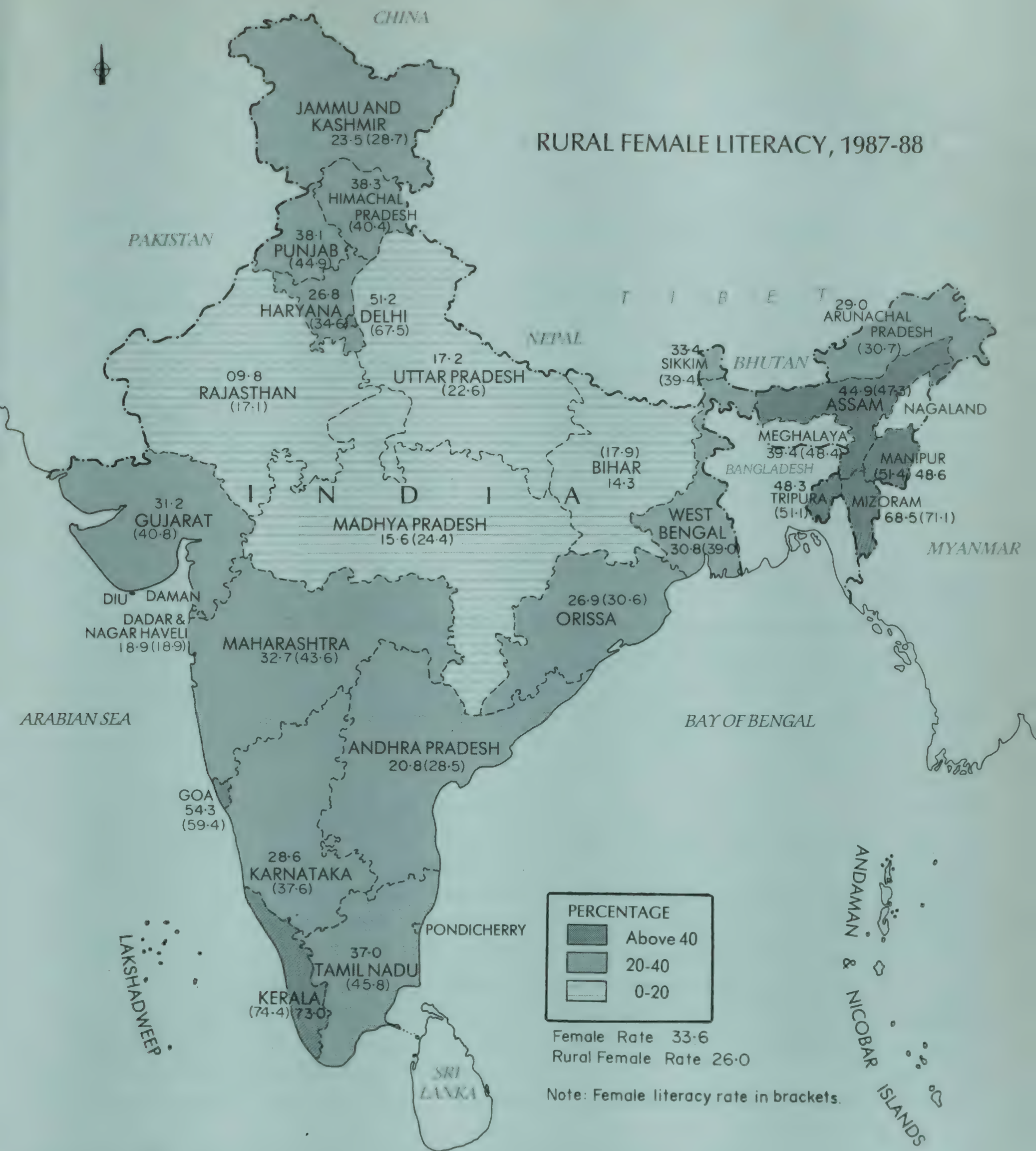
| Year | Total | Male | Female |
|------------|-------|-------|--------|
| 1901 | 5.35 | 9.83 | 0.60 |
| 1911 | 5.92 | 10.56 | 1.05 |
| 1921 | 7.16 | 12.21 | 1.81 |
| 1931 | 9.50 | 15.59 | 2.93 |
| 1941 | 16.10 | 24.90 | 7.30 |
| 1951 | 16.67 | 24.95 | 7.93 |
| 1961 | 24.02 | 34.44 | 12.95 |
| 1971 | 29.45 | 39.45 | 18.69 |
| 1981(a) | 36.23 | 46.89 | 24.82 |
| 1987-88(b) | 44.40 | 54.70 | 33.60 |
| 1991 (c) | 52.11 | 63.86 | 39.42 |

(a) Excludes Assam

(b) 43rd National Sample Survey

(c) 1991 Census, provisional, age 7 plus see Table 5.5A (page 90) for details

Source : Registrar General



The publication of this map does not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its delineation of its frontiers or boundaries.

Source: National Sample Survey

DIAGRAM 5.2

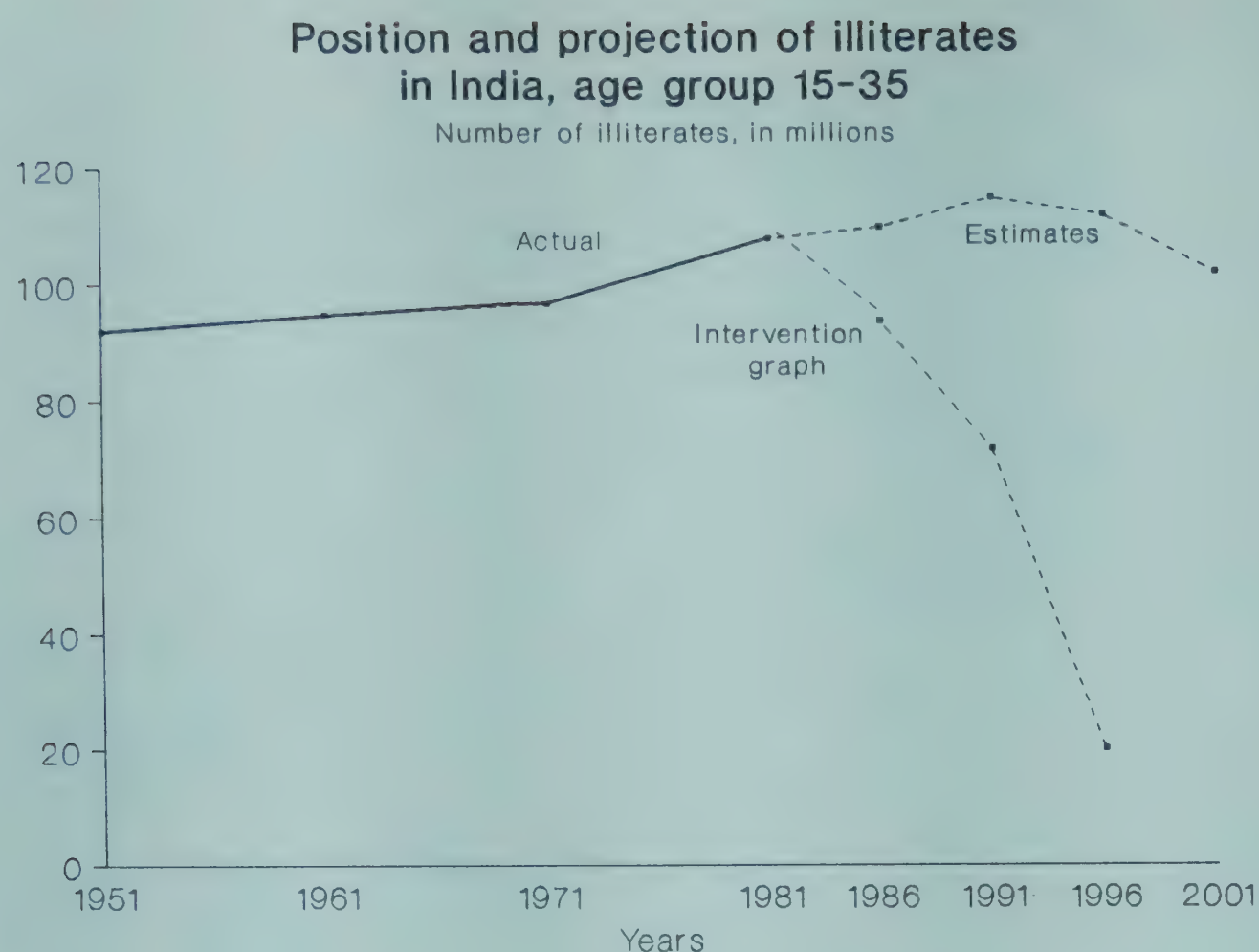


TABLE 5.5A

Literacy rates, Age 7 years and above, India and States, 1981 & 1991

| | Male | Female | | Male | Female |
|----------------------------|---------------------|---------------------|----------------------|---------------------|---------------------|
| India | 63.86(56.37) | 39.42(29.75) | | | |
| <i>States</i> | | | | | |
| Andhra Pradesh | | | Maharashtra | 74.84(69.66) | 50.51(41.01) |
| Arunachal Pradesh | 56.24(46.83) | 33.71(24.16) | Manipur | 72.98(64.12) | 48.64(34.61) |
| Assam | | | Meghalaya | 51.57(46.62) | 44.78(37.15) |
| Bihar | 51.10(35.11) | 29.37(14.01) | Mizoram | 84.06(79.37) | 78.09(68.60) |
| Goa | 62.34(..) | 43.70(..) | Nagaland | 66.09(58.52) | 55.72(40.28) |
| Gujarat | 52.63(46.58) | 23.10(16.51) | Orissa | 62.37(56.45) | 34.40(25.14) |
| Haryana | 85.48(76.01) | 68.20(55.17) | Punjab | 63.68(55.52) | 49.72(39.64) |
| Himachal Pradesh | 72.54(65.14) | 48.50(38.46) | Rajasthan | 55.07(44.76) | 20.84(13.99) |
| Jammu & Kashmir | 67.85(58.49) | 40.94(26.89) | Sikkim | 64.34(52.98) | 47.23(27.35) |
| Karnataka | | | Tamilnadu | 74.88(68.05) | 52.29(40.43) |
| Kerala | 74.57(64.27) | 52.46(37.72) | Tripura | 70.08(61.49) | 50.01(38.01) |
| Madhya Pradesh | | | Uttar Pradesh | | |
| | .. (44.18) | .. (19.55) | West Bengal | 55.35(47.43) | 26.02(17.18) |
| | 67.25(58.72) | 44.34(33.16) | | | |
| | 94.45(87.74) | 86.93(75.65) | | | |
| | | | | | |
| | 57.43(48.41) | 28.39(18.99) | | | |
| | | | | | |

Source : Registrar General : 1991 Census, provision

provement in this regard during the first seven years of the 1980's. The female rural literacy rate in the 10-14 age-group was 36.4 percent but it declined progressively for higher age-groups, to 8.6 percent in the 35 plus age-group: Table 5.31.

5.24 The regional variations with regard

Bihar (11.8 percent) ranked the lowest: Table 5.8. Interestingly, states that ranked low on general literacy rate showed by and large similar rankings for males and females, rural and urban areas. The major concentration of rural female illiterates was found in five states: Andhra Pradesh, Bihar,

TABLE 5.6

Literacy by sex, urban rural classification (all ages including 0-4 years) 1961, 1971, 1981, — India.

| | 1961 | | | (in millions) 1971 | | | 1981 | | |
|----------------------------------|-------|--------|-------|-----------------------|--------|-------|-------|--------|-------|
| | Male | Female | Total | Male | Female | Total | Male | Female | Total |
| Population | | | | | | | | | |
| All areas | 226.3 | 212.9 | 439.2 | 284.1 | 264.1 | 548.2 | 343.9 | 321.4 | 665.3 |
| (a) Rural | 183.6 | 176.8 | 360.4 | 225.4 | 213.7 | 439.1 | 260.0 | 247.6 | 507.6 |
| (b) Urban | 42.7 | 36.1 | 78.8 | 58.7 | 50.4 | 109.1 | 83.9 | 73.8 | 157.7 |
| Literates | | | | | | | | | |
| All areas | 77.9 | 27.6 | 105.5 | 112.1 | 49.4 | 161.5 | 161.3 | 79.7 | 214.0 |
| (a) Rural | 53.4 | 15.1 | 68.5 | 76.1 | 28.2 | 104.3 | 106.1 | 44.4 | 150.5 |
| (b) Urban | 24.5 | 12.5 | 37.0 | 36.0 | 21.2 | 57.2 | 55.2 | 35.3 | 90.5 |
| Illiterates | | | | | | | | | |
| All areas | 148.4 | 185.4 | 333.8 | 172.0 | 214.7 | 386.7 | 182.6 | 241.7 | 424.3 |
| (a) Rural | 130.2 | 161.7 | 291.9 | 149.3 | 185.5 | 334.8 | 153.9 | 203.2 | 357.1 |
| (b) Urban | 18.2 | 23.7 | 41.9 | 22.7 | 29.2 | 51.9 | 28.7 | 38.5 | 67.2 |
| Percentage of literates | | | | | | | | | |
| All areas | 34.5 | 13.0 | 24.0 | 39.5 | 18.7 | 29.5 | 46.9 | 24.8 | 36.2 |
| (a) Rural | 29.1 | 8.5 | 19.0 | 33.8 | 13.2 | 23.7 | 40.8 | 17.9 | 29.6 |
| (b) Urban | 57.5 | 34.5 | 47.0 | 61.3 | 42.1 | 52.4 | 65.8 | 47.8 | 57.4 |
| Percentage of illiterates | | | | | | | | | |
| All areas | 65.5 | 87.0 | 76.0 | 60.5 | 81.3 | 70.5 | 53.1 | 75.2 | 63.8 |
| (a) Rural | 70.9 | 91.5 | 81.1 | 66.2 | 86.8 | 76.3 | 59.2 | 82.1 | 70.4 |
| (b) Urban | 42.5 | 65.5 | 53.0 | 38.7 | 57.9 | 47.6 | 34.2 | 52.2 | 42.6 |

* Excludes Assam

Source : Registrar General

to female literacy are striking. The highest rural female literacy rate of 71.9 percent is registered by Kerala. Among the 14 most populous state, the four states of Rajasthan (6.4 percent), Madhya Pradesh (10.5 percent), Uttar Pradesh (11.1 percent) and

Madhya Pradesh, Rajasthan and Uttar Pradesh which together accounted for half the illiterate rural women in India: Table 5.9. Intra-state variations were considerable. If districts were classified by rural female literacy rate, a third of them had a rate of

TABLE 5.7

Literacy, illiterates (above 5 years) and effective literacy rates,(above 5 years) by residence and sex, 1981.

| | Literates | | | Illiterates | | | Effective literacy rate (percent) | | |
|------------|-----------|--------|--------|-------------|--------|--------|-----------------------------------|------|--------|
| | Persons | Male | Female | Persons | Male | Female | Persons | Male | Female |
| (millions) | | | | | | | | | |
| Total | 241.03 | 161.29 | 79.44 | 340.5 | 140.24 | 200.26 | 41.4 | 53.5 | 28.5 |
| Rural | 150.52 | 106.07 | 44.45 | 291.55 | 120.84 | 170.71 | 34.0 | 46.7 | 20.7 |
| Urban | 90.51 | 55.22 | 35.29 | 48.95 | 19.40 | 29.55 | 64.9 | 74.0 | 54.4 |

Source : Adapted from Sharma and Rutherford, 1987.

TABLE 5.8

Effective literacy rates (5 years and above) by location and sex for 14 populous states, 1981.

| States | Combined | | Male | | Female | |
|----------------|------------|------------|------------|------------|------------|-------|
| | | | Rural | Urban | Rural | Urban |
| Andhra Pradesh | 34.09 (10) | 36.74 (12) | 69.97 (11) | 16.07 (10) | 47.20 (11) | |
| Bihar | 30.24 (13) | 39.61 (11) | 70.33 (10) | 11.80 (11) | 46.00 (12) | |
| Gujarat | 49.9 (4) | 54.78 (4) | 77.49 (4) | 27.59 (5) | 58.15 (5) | |
| Haryana | 41.67 (8) | 50.05 (6) | 74.04 (6) | 17.85 (9) | 54.00 (7) | |
| Karnataka | 43.94 (7) | 48.19 (7) | 73.62 (7) | 22.65 (7) | 54.35 (8) | |
| Kerala | 78.92 (1) | 83.59 (1) | 89.25 (1) | 71.89 (1) | 79.85 (1) | |
| Madhya Pradesh | 32.25 (11) | 38.10 (13) | 73.11 (9) | 10.47 (13) | 48.64 (10) | |
| Maharashtra | 53.60 (2) | 58.60 (2) | 80.46 (3) | 28.29 (4) | 62.22 (2) | |
| Orissa | 38.83 (9) | 50.41 (5) | 73.29 (8) | 20.96 (8) | 49.13 (9) | |
| Punjab | 46.3 (5) | 47.38 (8) | 68.68 (13) | 31.36 (2) | 56.74 (6) | |
| Rajasthan | 28.39 (14) | 34.49 (14) | 69.12 (12) | 6.41 (14) | 39.96 (14) | |
| Tamil Nadu | 52.64 (3) | 57.86 (3) | 80.94 (2) | 29.11 (3) | 60.42 (4) | |
| Uttar Pradesh | 31.38 (12) | 40.56 (10) | 62.15 (14) | 11.05 (12) | 40.99 (13) | |
| West Bengal | 46.21 (6) | 46.98 (9) | 75.10 (5) | 25.31 (6) | 60.64 (3) | |
| All India | 41.44 | 46.74 | 74.00 | 20.65 | 54.41 | |

Figures in brackets show inter-state ranking.

Source : Registrar General, Census, 1981.

less than 10 percent and about half less than 15 percent: Table 5.10. Once again, the largest number of districts with low rural female literacy rates were found in the five states just mentioned. For instance, in each of the 26 districts of Rajasthan, more than 90 percent of the rural female population was illiterate.

5.25 The "scheduled castes and tribes" present another dimension of severe educational disparity. More than 90 percent of rural women belonging to these groups are illiterate: Table 5.11. The extent of disparity in literacy is seen from a pair of indicators: The literacy rate among scheduled tribe rural women is below 7 per-

TABLE 5.9

Rural female illiterates in five backward states, 1981.

| States | (in million) | | |
|-----------------------|--------------|-----------|-------------|
| | Population | Literates | Illiterates |
| Andhra Pradesh | 20.36 | 2.87 | 17.49 |
| Bihar | 30.03 | 3.05 | 26.98 |
| Madhya Pradesh | 20.33 | 1.83 | 18.50 |
| Rajasthan | 13.04 | 0.71 | 12.33 |
| Uttar Pradesh | 42.92 | 4.07 | 38.55 |
| Total (five states) A | 126.68 | 12.53 | 114.15 |
| All India B | 247.55 | 44.45 | 203.10 |
| A as percentage of B | 51.1 | 28.19 | 56.20 |

Source : Figures for rural literate and illiterate females based on Census, 1981.

TABLE 5.10

Distribution of districts by rural female literacy rates (percent) – 1981.

| States | 0-4 | 5-9 | 10-14 | 15-19 | 20-24 | 25-49 | 50 + | Total |
|-------------------|-------------|---------------|--------------|--------------|--------------|--------------|-------------|--------------|
| Andhra Pradesh | - | 9 | 7 | 2 | 2 | 2 | - | 22 |
| Bihar | - | 15 | 14 | 2 | - | - | - | 31 |
| Gujarat | - | 1 | 1 | 2 | 7 | 8 | - | 19 |
| Haryana | - | 2 | 4 | 3 | 3 | - | - | 12 |
| Himachal Pradesh | - | - | 1 | 3 | 3 | 5 | - | 12 |
| Jammu and Kashmir | 3 | 8 | 1 | 1 | 1 | - | - | 14 |
| Karnataka | - | 3 | 4 | 3 | 4 | 5 | - | 19 |
| Kerala | - | - | - | - | - | 1 | 11 | 12 |
| Madhya Pradesh | 8 | 21 | 13 | 3 | - | - | - | 45 |
| Maharashtra | - | - | 4 | 2 | 5 | 14 | - | 25 |
| Manipur | - | - | - | - | 3 | 3 | - | 6 |
| Meghalaya | - | - | - | 1 | 1 | 3 | - | 5 |
| Nagaland | - | - | 1 | - | 1 | 4 | 1 | 7 |
| Orissa | - | 4 | 2 | 4 | - | 3 | - | 13 |
| Punjab | - | - | 1 | 2 | 2 | 7 | - | 12 |
| Rajasthan | 10 | 16 | - | - | - | - | - | 26 |
| Sikkim | - | - | 1 | 2 | 1 | - | - | 4 |
| Tamil Nadu | - | - | - | 3 | 6 | 5 | 1 | 15 |
| Tríपुरa | - | - | - | - | 1 | 2 | - | 3 |
| Uttar Pradesh | 6 | 27 | 13 | 6 | 2 | 2 | - | 56 |
| West Bengal | - | - | 3 | 3 | 5 | 4 | - | 15 |
| Total | 27 (7.2) | 106 (28.4) | 70 (18.8) | 42 (11.3) | 47 (12.6) | 68 (18.2) | 13 (3.5) | 373 (100) |

Source : Computed from figures in Census of India, 1981.

TABLE 5.11

Scheduled castes and scheduled tribes literacy rates (percent) by sex and location, 1981.

| | All | Scheduled Tribe | | Scheduled Caste | | | |
|-------|------|-----------------|------|-----------------|------|--------|--|
| | Male | Female | Male | Female | Male | Female | |
| Total | 46.9 | 24.8 | 24.5 | 8.0 | 31.1 | 10.9 | |
| Rural | 40.8 | 18.0 | 22.9 | 6.8 | 27.9 | 8.5 | |
| Urban | 65.8 | 47.8 | 47.6 | 27.3 | 47.5 | 24.3 | |

Source : Registrar General, Census 1981, Occasional paper no. 2, 1988.

TABLE 5.12

Percent distribution of currently married women by educational level, India.

| Educational level | Rural Areas | Urban Areas |
|-------------------|-------------|-------------|
| Illiterate | 80.8 | 44.7 |
| Literacy-primary | 12.3 | 22.1 |
| Primary-matric | 5.4 | 18.5 |
| Matric-graduate | 1.2 | 10.4 |
| Graduate + | 0.2 | 4.3 |

Source : Registrar General, Census - 1981, occasional paper no. 2, 1988.

cent, compared to 68 percent among 'non-scheduled' urban men.

5.26 There have been efforts to correlate female literacy to the female age at marriage, child mortality estimates and fertility rates. For example, in rural areas a very large proportion of married women are illiterate as compared to urban areas: Table 5.12. Further, among illiterate married women, around two-thirds of them both in rural and urban areas, got married before reaching the age of 18 years, suggesting a positive correlation between age at marriage and level of education: Table 5.13. A gradual increase is also seen in the mean age at marriage with the rise in the educational level, but this is significant only when the woman reached the matriculation level: Table 5.14. Child mortality is about five times more among illiterate mothers compared to

TABLE 5.13

Percent distribution of currently married women by age at marriage and by level of education in rural and urban areas – India.

| Level of education | Age at marriage | | | | | |
|----------------------------|-----------------|-------|------|-------------|-------|------|
| | Rural areas | | | Urban areas | | |
| | Below 18 | 18-20 | 21 + | Below 18 | 18-20 | 21 + |
| Illiterate | 66.3 | 25.5 | 8.2 | 63.5 | 28.1 | 8.4 |
| Literate but below primary | 54.6 | 33.0 | 12.4 | 53.7 | 34.5 | 11.8 |
| Primary-matric | 49.8 | 35.5 | 14.7 | 47.9 | 37.4 | 14.7 |
| Matric-graduate | 32.3 | 39.7 | 28.0 | 26.8 | 43.0 | 30.2 |
| Graduate + | 16.9 | 31.1 | 52.0 | 10.1 | 32.7 | 57.2 |
| All levels | 63.5 | 27.2 | 9.3 | 52.4 | 33.0 | 14.6 |

Source : Registrar General , Occasional paper 2 of 1988.

TABLE 5.14

Mean age at marriage of currently married women by level of education, India - 1981.

| Level of education | Rural | Urban |
|--------------------|-------|-------|
| Illiterate | 16.5 | 16.7 |
| Literate primary | 17.4 | 17.5 |
| Primary-matric | 17.7 | 17.9 |
| Matric-graduate | 19.0 | 19.4 |
| Graduate + | 20.9 | 21.2 |
| All levels | 16.7 | 17.6 |

Source : Registrar General : Occasional paper 2 of 1988.

TABLE 5.15

Child mortality by educational level of mother, India, 1981.

| | by age 2 | by age 5 |
|---------------------------|----------|----------|
| Illiterate | 138 | 170 |
| Literate but below middle | 96 | 107 |
| Middle but below matric | 63 | 71 |
| Matric but below graduate | 43 | 48 |
| Graduate + | 28 | 32 |

Source : Registrar General Census- 1981, Occasional Paper No. 2, 1989.

TABLE 5.17

Sex ratio of children ever born and children surviving by different educational levels of women.

| Educational level | Children ever born | | | Children surviving | | |
|-------------------|--------------------|-------|-------|--------------------|-------|-------|
| | Total | Rural | Urban | Total | Rural | Urban |
| Illiterate | 888 | 892 | 869 | 862 | 864 | 851 |
| Literate middle | 916 | 926 | 901 | 914 | 924 | 899 |
| Middle matric | 926 | 934 | 919 | 928 | 936 | 922 |
| Matric graduate | 931 | 938 | 929 | 935 | 942 | 932 |
| Graduate & above | 940 | 940 | 940 | 942 | 943 | 942 |

Source : Registrar General, Census, 1981.

graduates. There is a large differential as between mothers with middle level schooling. The link between education of the mother and reducing infant and child mortality has been discussed in Chapter 2.

5.27 It is observed that the completed level of fertility (average number of children ever born per woman in age-group 45-49 years) decreases with the increase in the level of women's education: Table 5.16. The level of education of the mother also seems to affect the sex ratio of children ever born and those surviving: Table 5.17. Available data also suggest a positive correlation between a woman's level of education and her fertility: Table 5.18.

TABLE 5.16

Completed level of fertility—average number of children ever born per woman in the age group 45-49 by educational level, 1981, India.

| Educational level | Average number of children ever born | | |
|-------------------|--------------------------------------|-------|-------|
| | Total | Rural | Urban |
| Illiterates | 5.06 | 5.09 | 4.99 |
| Literate middle | 5.03 | 5.17 | 4.86 |
| Middle matric | 4.48 | 5.17 | 4.86 |
| Matric graduate | 3.36 | 3.54 | 3.32 |
| Graduate & above | 2.34 | 2.66 | 2.31 |

Source : Registrar General , Census 1981, Ocasional Paper No. 2, 1989.

TABLE 5.18

Unadjusted and adjusted fertility rates by education level of women.

| Educational level | Unadjusted | | | | Adjusted | | | |
|-------------------|------------|-----|------|------|----------|-----|------|------|
| | TFR | GFR | TMFR | GMFR | TFR | GFR | TMFR | GMFR |
| Illiterate | 3.9 | 119 | 4.4 | 138 | 5.1 | 155 | 5.8 | 180 |
| Literate middle | 3.2 | 109 | 4.1 | 144 | 4.5 | 152 | 5.7 | 201 |
| Middle matric | 2.7 | 92 | 3.7 | 150 | 4.0 | 135 | 5.4 | 220 |
| Matric graduate | 2.1 | 75 | 3.3 | 137 | 3.1 | 111 | 4.9 | 203 |
| Graduate & above | 1.6 | 77 | 3.0 | 124 | 2.0 | 99 | 3.8 | 159 |

Note : see definitions for total, general and marital fertility rates.

Source : Registrar General, Census 1981.

TABLE 5.19

Education-specific usual status principal worker population ratio for females of age 15 years and above, 1987-88, India.

| Education category | Worker population ratio | |
|--------------------|-------------------------|-------|
| | Rural | Urban |
| Not literate | 414 | 230 |
| Literate upto | | |
| primary | 274 | 132 |
| middle | 176 | 81 |
| secondary | 175 | 125 |
| graduate and above | 250 | 297 |
| all | 373 | 175 |

Source : National Sample Survey, 43rd round.

5.28 An analysis of the Census data shows that it is either the illiterate or the highly literate woman who tends to participate in the labour force in a larger proportion. While the illiterates have no choice but to do (manual) work, those who have higher education have professional avenues open to them. Another plausible reason for the relative absence of women in the middle category could be that education is often being used more to enhance the marriageability of daughters than as a means of increasing income: (Table 5.32). The National Sample Survey 43rd round (1987-88) reveals similar tendencies in respect of

education-specific 'usual status' worker population ratio of females (principal workers): Table 5.19

Barriers to literacy

5.29 Women's education faces a number of social, cultural, economic and psychological barriers. Societal expectations reflect a traditional bias, the ideal woman being one who is loyal, faithful, passive, submissive, self-effacing and self-sacrificing. The institution of marriage defines and circumscribes the life of a woman as a wife, a mother, a home-maker. Any other work that a woman does, for example, as agricultural worker or artisan, receives little weightage. Increasing malnutrition and repeated pregnancies may make her life expendable; nevertheless she would have fulfilled her main role of bearing children, particularly sons. This social argument is reinforced by the general lack of employable skills in women, on account of their low literacy and lack of training. Further, specious misinterpretations of religion and culture tend to depress women's status and role. The resultant low self-image is so internalised as to inhibit any self-motivation for learning on the part of most women. Also, in conditions of poverty, the poor cannot see how sending their daughters to school can change their existential reality. Even when girls enroll in school, the scheme of education seems to reinforce their subordination. The existing system of education thus reproduces not only the social class power-

TABLE 5.20

Distribution of literates and earners by broad age group, 1987.

| Age Group | Literacy Rate | | | % of Earners | | |
|---------------------------|---------------|-------|-------|--------------|-------|-------|
| | Rural | Urban | Total | Rural | Urban | Total |
| Below 18 years | | | | | | |
| Male | 38.9 | 42.7 | 39.5 | 5.0 | 5.4 | 3.6 |
| Female | 31.9 | 36.4 | 33.0 | 5.5 | 6.1 | 6.9 |
| Total | 35.5 | 39.6 | 36.4 | 5.2 | 5.8 | 6.2 |
| 18 years and above | | | | | | |
| Male | 45.7 | 48.4 | 45.3 | 72.4 | 71.5 | 71.9 |
| Female | 29.7 | 35.4 | 29.9 | 4.1 | 65.0 | 65.1 |
| Total | 37.3 | 41.5 | 37.2 | 68.1 | 68.1 | 68.3 |
| Total population | | | | | | |
| Male | 42.4 | 45.5 | 42.5 | 40.1 | 38.9 | 39.7 |
| Female | 30.6 | 35.9 | 31.3 | 38.5 | 38.3 | 39.3 |
| Total | 36.5 | 40.6 | 36.8 | 39.3 | 38.6 | 39.5 |

* Totals in all the tables include respondents who have not specified their rural-urban status.

Source : National Commission on Self-employed women, 1987.

TABLE 5.21

Distribution of female workers (respondents) by broad age group, 1987.

| Age group | Rural | Urban | Total |
|-----------|-------|-------|-------|
| Below 15 | 2.6 | 2.8 | 3.3 |
| 15-24 | 14.3 | 15.3 | 14.2 |
| 25-34 | 36.7 | 36.5 | 37.0 |
| 35-44 | 28.7 | 28.3 | 28.7 |
| 45-54 | 12.7 | 12.7 | 18.4 |
| 55-above | 55.0 | 44.4 | 4.5 |
| Total | 100.0 | 100.0 | 100.0 |

Source : National Commission on Self-employed Women, 1987.

structure but also the prevailing gender disparities.

5.30 Besides the daily struggle for food, fuel, water and fodder, as well as in bearing and rearing children, women from impoverished families have in addition to work for their livelihood. Their lack of time is a deep-rooted constraint for educational activity of any kind. Even when mothers attend classes, they have to bring along

TABLE 5.22

Distribution of female workers (respondents) by educational level, 1987.

| Educational level | Rural | Urban | Total |
|--------------------------------|-------|-------|-------|
| Illiterate | 62.7 | 55.2 | 61.6 |
| Literate but below primary | 12.1 | 14.6 | 12.5 |
| Primary but not middle | 10.4 | 11.0 | 10.3 |
| Middle but below high school | 7.4 | 8.2 | 7.5 |
| High school but below graduate | 6.6 | 8.6 | 7.0 |
| Graduate and above | 0.7 | 2.4 | 1.1 |

Source : National Commission on Self-employed Women, 1987.

young children, and concentration at learning becomes a casualty.

5.31 Social interaction being determined by cultural tradition and taboo, women tend to be isolated from the social mainstream. They go about their daily routine, with little

TABLE 5.22

Literacy among female workers (respondents) by broad activity group and nature of employment, 1987.

| Activity | Rural | Literacy Rate Urban | Total |
|---|-------|------------------------|-------|
| Activity group | | | |
| Agriculture | 26.4 | 34.6 | 27.2 |
| Horticulture | 50.9 | 42.9 | 46.9 |
| Rearing live-stock | 38.9 | 47.6 | 37.5 |
| Crafts (processing and manufacturing) | 45.3 | 50.5 | 47.7 |
| Collection of goods | 21.7 | 27.7 | 23.6 |
| Services | 54.8 | 49.1 | 50.7 |
| Vendors/hawkers | 42.9 | 36.6 | 35.8 |
| Construction workers | 16.7 | 18.5 | 59.4 |
| Total | 37.3 | 44.8 | 38.4 |
| Nature of employment | | | |
| Unpaid family work | 34.7 | 44.7 | 36.3 |
| Wage labour outside home | 28.2 | 40.3 | 31.8 |
| Contract/piece-rate/paid work at home | 42.2 | 43.0 | 42.5 |
| Independent work | 43.0 | 48.0 | 41.7 |
| Exchange of goods and services on land | 27.3 | 29.7 | 28.1 |
| Total | 37.3 | 44.8 | 38.4 |

Source : National Commission on Self-employed Women, 1987.

TABLE 5.24

Percentage distribution of responses on activity status of female workers (respondents), 1987.

| Activity | Rural | Urban | Total |
|--|-------|-------|-------|
| Agriculture | 47.1 | 17.5 | 38.3 |
| Horticulture | 5.7 | 2.6 | 4.3 |
| Rearing live stock | 11.7 | 4.6 | 9.7 |
| Crafts (processing and manufacturing) | 12.8 | 29.4 | 18.6 |
| Collection of goods | 6.7 | 3.4 | 6.6 |
| Services | 11.5 | 28.4 | 15.4 |
| Vendors/hawkers | 1.8 | 7.7 | 3.6 |
| Construction workers | 2.7 | 6.4 | 3.5 |
| | 100.0 | 100.0 | 100.0 |

Source : National Commission on Self-employed Women, 1987.

TABLE 5.25

Percentage distribution of activity responses of female workers (respondents) by detailed activity group, 1987.

| Activity group | Percentage distribution |
|---|-------------------------|
| <i>Agriculture</i> | |
| Own farm | 88.6 |
| In other's field | 41.3 |
| Agriculture processing | 1.5 |
| Others | 1.6 |
| Total | 100.0 |
| <i>Horticulture</i> | |
| Growing vegetables | 49.0 |
| Growing fruits | 25.4 |
| Growing herbs | 3.4 |
| Growing flowers | 11.9 |
| Others | 9.4 |
| Total | 100.0 |
| <i>Rearing live-stock</i> | |
| Cattle, dairy | 49.4 |
| Poultry | 23.2 |
| Piggery/goatery | 18.9 |
| Fishery | 4.1 |
| Silk worm | 2.5 |
| Others | 2.8 |
| Total | 100.0 |
| <i>Crafts</i> | |
| Cane/bamboo/mat weaving | 14.4 |
| Spinning/weaving | 16.9 |
| Cashew | 1.3 |
| Coir | 1.9 |
| Tobacco/processing/bidi rolling | 9.0 |
| Dyeing/printing | 1.6 |
| Brewing | 1.0 |
| Pottery | 2.5 |
| Paper and paper products | 3.1 |
| Leather products | 0.0 |
| Tanning | 4.0 |
| Match making | 1.1 |
| Leaf products | 0.0 |
| Toy making/carpentry | 4.5 |
| Embroidery/zari work/chikan/lace making/ tailoring | 2.1 |
| Food processing | 26.3 |
| Utensils | 8.0 |
| Others | 2.3 |
| Total | 100.0 |

Collection of goods

| | |
|---|-------|
| Fuel | 56.2 |
| Fodder | 22.2 |
| Fruits/seeds | 6.1 |
| Leaves (tendu, sal) | 5.4 |
| Other minor forest produce (gum, lace, katha etc) | 2.1 |
| Paper and other waste material | 1.9 |
| Others | 6.1 |
| Total | 100.0 |

Services

| | |
|-------------------------------------|-------|
| Domestic | 38.2 |
| Sweeping/scavanging | 18.7 |
| Washing | 14.2 |
| Mid-wifery | 3.6 |
| Community health volunteers | 3.0 |
| Instructress (non-formal education) | 9.2 |
| Others | 13.0 |
| Total | 100.0 |

Vendors/hawkers

| | |
|------------------|-------|
| Vegetables/fruit | 37.8 |
| Utensils | 7.2 |
| Processed food | 11.9 |
| Flowers | 9.4 |
| Garments | 8.8 |
| Others | 24.9 |
| Total | 100.0 |

Source : National Commission on Self-employed Women, 1987.

TABLE 5.26
Proportion of responses on employment status to total female workers, 1987.

| Nature of employment | Percentage of total female workers | | |
|--|------------------------------------|-------|-------|
| | Rural | Urban | Total |
| Unpaid family work | 71.6 | 28.6 | 51.4 |
| Wage labour outside home | 60.2 | 51.0 | 57.9 |
| Contract/piece rate/paid work at home | 11.9 | 23.5 | 15.1 |
| Independent work | 46.3 | 37.6 | 49.9 |
| Exchange of goods and services in kind | 6.2 | 4.4 | 5.9 |

Note : Percentage distribution exceeds 100 on account of multiplicity of responses.

Source : National Commission on Self-employed Women, 1987.

TABLE 5.27

Per capita income by nature of employment of female workers (respondents) 1987.

| Nature of employment | Rural | Urban | Total |
|--|-------|-------|-------|
| Unpaid family work | 991 | 1063 | 957 |
| Wage labour outside home | 738 | 1092 | 806 |
| Contract/piece rate/paid work at home | 908 | 1062 | 975 |
| Independent work | 899 | 1137 | 920 |
| Exchange of goods and services in kind | 1005 | 1049 | 1018 |
| Total | 866 | 1160 | 816 |

TABLE 5.28

Share of earnings of female workers (respondents) in family income

| Contribution to family income | Percentage of respondents | | |
|---|---------------------------|-------|-------|
| | Rural | Urban | Total |
| Upto 10% | 9.2 | 10.8 | 8.8 |
| 10-20% | 13.4 | 12.0 | 12.4 |
| 20-30% | 13.5 | 12.5 | 13.2 |
| 30-40% | 15.0 | 13.6 | 15.1 |
| 40-50% | 14.1 | 13.1 | 13.9 |
| 50-60% | 4.3 | 3.8 | 3.9 |
| 60-70% | 3.0 | 3.1 | 3.0 |
| 70-80% | 2.1 | 2.5 | 2.2 |
| 80-90% | 1.6 | 1.9 | 1.7 |
| 100% | 23.7 | 26.7 | 25.9 |
| Average income of those contributing 100% | 2991 | 3941 | 3180 |

TABLE 5.29

Percentage distribution of female workers (respondents) by broad income range, 1987.

| Annual income | (in rupees) | | | | | |
|-----------------|--------------------|-------|-------|---------------|-------|-------|
| | Respondents Income | | | Family income | | |
| | Rural | Urban | Total | Rural | Urban | Total |
| Upto Rs.500 | 15.2 | 8.6 | 13.5 | 2.7 | 2.0 | 2.9 |
| Rs.501-1000 | 30.3 | 21.6 | 27.8 | 10.3 | 5.7 | 9.5 |
| Rs.1001-3000 | 41.7 | 48.7 | 43.9 | 44.9 | 32.9 | 42.4 |
| Rs.3001-5000 | 9.1 | 13.4 | 10.4 | 20.9 | 24.7 | 21.7 |
| Rs.5000 + above | 3.7 | 7.7 | 5.1 | 21.3 | 34.8 | 23.5 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

CH-100

TABLE 5.30

Percentage distribution of problems faced by female workers (respondents) by nature of activity, 1987.

| Problems | Agri- culture | Horti- culture | Rearing live – stock | Crafts process- ing and making | Collec- tion of goods | Services | Vendors Hawkers | Const- ruction work- ers |
|--|------------------|-------------------|----------------------------|---|-----------------------------|----------|--------------------|-----------------------------------|
| <i>Wage employment</i> | | | | | | | | |
| Irregular employment | 49.5 | 38.9 | 40.2 | 41.7 | 42.7 | 34.6 | 38.3 | 46.1 |
| Low wages | 44.0 | 54.0 | 54.0 | 52.1 | 52.1 | 58.7 | 57.2 | 47.2 |
| Irregular pay | 6.4 | 7.0 | 5.8 | 6.2 | 5.2 | 6.7 | 4.5 | 66.7 |
| <i>Non-wage employment</i> | | | | | | | | |
| Lack of raw mate- rial/capital goods | 63.6 | 57.5 | 56.8 | 48.5 | 58.9 | 51.6 | 25.4 | 41.7 |
| Marketing Credit | 20.0 | 26.3 | 25.5 | 35.3 | 29.2 | 31.2 | 55.2 | 28.2 |
| Credit (official) | 15.7 | 15.8 | 17.2 | 15.6 | 11.3 | 16.4 | 17.4 | 28.4 |
| (non-official) | 0.7 | 0.4 | 0.5 | 0.06 | 60.6 | 0.8 | 1.7 | 1.7 |
| <i>General problems</i> | | | | | | | | |
| Personal/health | 39.5 | 36.2 | 36.3 | 37.9 | 43.4 | 44.4 | 38.5 | 45.0 |
| Exploitation & harassment by family/employer | 16.2 | 9.5 | 8.0 | 16.5 | 13.9 | 19.0 | 15.0 | 21.0 |
| Lack of educa- tional guidance and training | 11.3 | 13.5 | 14.0 | 13.0 | 8.4 | 7.4 | 4.2 | 3.5 |
| Alcoholism/non- access to earnings | 3.1 | 2.4 | 2.9 | 2.3 | 4.0 | 3.9 | 4.6 | 3.3 |
| Lack of social security | 2.7 | 5.9 | 3.2 | 2.3 | 2.5 | 4.0 | 2.7 | 2.9 |
| Other problems | 27.2 | 32.4 | 35.6 | 27.5 | 27.8 | 20.3 | 34.9 | 24.3 |

time or space to talk about themselves with other women. They have very little control over or knowledge about their own bodies. Physical burden is thus compounded by social disadvantage.

5.32 Rural women have very little exposure to languages other than their mother tongue. More men than women communicate in the language of administration, on account of the tradition of men being their 'spokesmen'. The women are expected to be silent and home-bound with little exposure to or experience of written communication. The language handicap is heightened by the diversity of languages and dialects. Women's participation in

literacy programmes is constrained primarily by men's attitude usually against it.

5.33 Women's groups generally share the view that literacy per se is not the priority for poor deprived women. This means that women will themselves seek literacy, at a point when it is meaningful and valuable to them. So, the educational process must enable women to ask questions, seek answers, take action, reflect on actions and raise new questions. The starting point for this necessary process would be a critical appraisal of prevailing social attitudes, norms and values which prevent women from exercising their right to choose – be it

TABLE 5.31

Gross literacy rates (percent) by age, sex and residence, 1981.

| Age Group | Residence | Persons | Males | Females |
|--------------|-----------|---------|-------|---------|
| All ages | Total | 36.23 | 46.89 | 24.82 |
| | Rural | 29.65 | 40.79 | 17.96 |
| | Urban | 57.40 | 65.83 | 47.82 |
| 10-14 years | Total | 56.59 | 66.90 | 44.85 |
| | Rural | 50.16 | 62.42 | 36.44 |
| | Urban | 78.09 | 82.35 | 73.39 |
| 15-19 years | Total | 55.37 | 66.12 | 43.28 |
| | Rural | 47.74 | 60.36 | 33.66 |
| | Urban | 76.68 | 82.15 | 70.40 |
| 20-24 years | Total | 52.02 | 66.54 | 37.18 |
| | Rural | 43.11 | 59.53 | 27.16 |
| | Urban | 74.71 | 82.93 | 65.16 |
| 25-34 years | Total | 45.10 | 60.72 | 28.96 |
| | Rural | 36.25 | 53.06 | 19.64 |
| | urban | 69.50 | 80.22 | 56.98 |
| 35 and above | Total | 30.18 | 44.61 | 14.44 |
| | Rural | 23.17 | 37.96 | 08.62 |
| | Urban | 54.25 | 69.42 | 35.91 |

Source : Registrar General, Census - 1981

information or occupation or peers for joint action.

5.34 As seen from the foregoing, the causes of the depressed status of women in India are deep and multiple. For this reason, the response too must be many-sided. If that happens, improvements in

women's education, health and capacity to gain some control over her family and social environment, including the ability to control her own fertility, could lead not only to her better status but also to higher female productivity, reduced population growth and better development of children.

TABLE 5.32

Work participation rates for main workers by educational level, sex and urban/rural residence, 1981, India.

| Educational levels | Urban | | Rural | |
|--|-------|--------|-------|--------|
| | Male | Female | Male | Female |
| Total | 48.5 | 7.2 | 52.6 | 15.9 |
| Illiterate | 38.5 | 7.9 | 51.2 | 17.2 |
| Literate without educational level | 29.9 | 2.9 | 42.4 | 8.5 |
| Primary | 53.0 | 3.9 | 60.8 | 11.8 |
| Middle | 55.9 | 3.6 | 59.1 | 9.1 |
| Matriculation/Secondary | 68.0 | 10.6 | 66.0 | 12.1 |
| Higher Secondary/Intermediate/ Pre-University | 54.1 | 9.0 | 55.9 | 9.9 |
| Non-technical Diploma or certifi- cate not equal to degree | 69.8 | 38.4 | 75.4 | 45.7 |
| Technical Diploma or certificate not equal to degree | 79.1 | 61.5 | 77.3 | 69.7 |
| Graduate degree other than technical | 74.0 | 20.7 | - | - |
| Graduate and above | | | 70.9 | 31.3 |
| Post graduate degree other than technical degree | 81.7 | 33.2 | - | - |
| Technical degree or diploma equal to degree or Post-graduate degree | | | | |
| (i) Engineering & Technology | 86.8 | 47.3 | - | - |
| (ii) Medicine | 82.0 | 72.2 | - | - |
| (iii) Agriculture | 81.9 | 46.8 | - | - |
| (iv) Veterinary | 88.9 | 50.8 | - | - |
| (v) Teaching | 88.4 | 56.9 | - | - |
| Others | 74.4 | 37.1 | - | - |

Source : Registrar General, Census, 1981.

The Living Context

Surrounding Systems

As seen in Part I, each stage in the continuum of the Life Cycle, draws upon the potential built up over the preceding phases, (and is affected by the lack of it). It is also clear that the development of human capacity is determined substantially by the inter-related systems that surround life. Any attempt to improve the situation of children must therefore be supported by systematic long-term efforts to change for the better the socio-physical context of their lives. As in the case of the Life Cycle, so too the Living Context has to be understood not in isolated sectors but as a whole with interacting parts. For convenience of analysis, it is considered here in two clusters, under the *Environment* and *Structures and Services*.

Under Chapter 6 on the Environment, the following cluster of inter-related concerns has a direct bearing on levels of living:

- Physical environment
- Population growth
- Urban expansion
- Water supply
- Shelter and sanitation
- Social environment

The constraints that need to be overcome for reducing poverty or inequality are considered in Chapter 7 on Structures and Services which permit or prevent a change for the better.

Here too, the structures and services do not function independently but influence one another, creating on balance a bias for or against the poor and the weak. These instruments of change are not value-neutral, and, in a skewed socio-economic situation, their effect on development trends will be a consequence of policies and strategies (Chapter 8). Structures and services are part of the living context and critically affect

the lives of children and women, Chapter 7 discusses the dimensions, as shown below, of what may be called the institutional environment:

- Socio-economic structure
- Political-administrative system
- Legal framework
- Nutritional support
- Health care
- Education system
- Communication network
- Social and voluntary organizations



Chapter 6

The Environment

Physical Environment

6.1 The natural life support systems of land, water and air have been weakening over time as a result of the pressure of population and certain demands made by economic growth. In consequence, the symbiotic relationship between society and nature is disturbed, making it harder to loosen the hold of poverty. For example, the incidence of floods and drought has increased in frequency, spread and damage, with the poor living on the margins of the environment paying the heaviest price. The unprecedented erosion of top soil from the Himalayan slopes—following commercial felling of forests over many decades—is no less serious to the integrity of child life than, say, unreplenished loss of

body fluids caused by enteric infection. The sustenance of the natural environment has thus become as much a development concern as the building of the human capacity.

6.2 Broadly, the main environmental concerns belong to two clusters: one, protection of land and water resources which is central to the sustenance of life and of agriculture which is the mainstay of the economy; and two, prevention of water and air pollution, aggravated by the industrializing process, with adverse consequences to life from its earliest stages.

6.3 Producing food for some 1000 million people by the end of this century at prices

they can afford, depends primarily on the proper management of finite land and renewable sources of water. Two-thirds of the total land area of 329 million hectares have been degraded by serious water and wind erosion, water logging, shifting cultivation and other causes. The loss of top soil by water action alone is estimated at 12,000 million tons a year. Forests have shrunk to some 19 percent or less of the land area (against the desired level of 33 percent), but not all forests are under adequate tree cover. The annual depletion of forests is estimated at 1.5 million hectares. Compared with this, the total area brought under afforestation schemes between 1951 and 1980 has been only 3.18 mh – mainly as plantations for industrial purposes and partly for fuel wood and conservation of soil and moisture. The poor, prominently the tribals, suffer the most from the loss of forests which have traditionally been a 'common property' resource. There are vibrant responses to this plight, like the 'Chipko' movement, started in the Himalaya and spreading to other parts, to save trees as well as traditional values related to modes of production and consumption. There are also nascent programmes like 'For every child a tree', promoted through schools in states such as Gujarat.

6.4 The link between forest cover and the conservation of water and soil is obvious. The average annual water resource is estimated at 400 million hectare metres. Of this, about 300 mhm is received by rainfall during the four months of the monsoons. The vegetal cover which used to hold back the rain waters and release them steadily after augmenting the ground water, is gradually disappearing and water availability is becoming uneven. A high rainfall thus tends to create a flood and a dry season often leads to a drought. The alternating cycle of floods and drought is almost regular. The annual level of central government assistance to the states to respond to floods, drought and other disasters has increased manyfold during the 1980's. The flood-prone area has expanded from about 25 mh at the end of the 1960's to around 60 mh by mid-1980's. Earlier, Uttar Pradesh, Bihar, West Bengal, Orissa and Assam accounted for over 60 percent of the area affected by floods. States like

Andhra Pradesh, Madhya Pradesh, Maharashtra, Tamil Nadu, Rajasthan and Gujarat – as well as new areas in the traditionally flood-prone states – have since become vulnerable. Likewise, over half the country would be drought prone, without irrigation; districts previously classified under sub-humid and humid areas are becoming drought-prone.

6.5 Irrigation, unless carefully planned, creates its own problems. Water logging and consequent salinity and alkalinity is an extensive consequence of surface irrigation; Water tables have been rising over millions of hectares of land so irrigated in Haryana, Punjab and northern Rajasthan, requiring vast drainage systems to save affected lands from slow decline in the coming decades. Possibly as much surface-irrigated land is put out of production due to water logging every year as is brought under production through new irrigation projects.

6.6 Meanwhile, major and medium irrigation projects are being taken up, at a rapidly escalating cost, and in the face of opposition from the environmentally alert segment of public opinion. The typical objections to large dams are that they should take into account not only economic costs but also social costs, both present and future; that their benefits do not match even the economic costs; they submerge prime forests and cultivable land; uproot people, particularly tribal groups from their ancestral lands, cultural moorings and traditional means of livelihood; and expose the area to deeper environmental degradation. The life of some of the major dams like Bhakra (Punjab) and Hirakud (Orissa) may be much less than originally expected. India has the second highest incidence of dam failures in the world: 40 big dams of the 433 built between 1874 and 1975 have failed, according to the International Commission on Large Dams.

6.7 Relatively, ground water offers a cheaper and more efficient alternative source, provided it can be conserved. Over-exploitation of ground water and its contamination (both of which are happening) must therefore be prevented. In arid and semi-arid areas ground water levels are falling, affecting surface rivers and streams



The publication of this map does not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its delineation of its frontiers or boundaries.

Source: Census 19

as well. This brings up the need for proper land management and afforestation as the key to conserve water within the land mass. It also offers a way to control both flood and drought.

6.8 During the crop year 1988-89, India registered a record foodgrain production of around 172 million tonnes, compared to 138 million tonnes the previous year and the record harvest of 152 million tonnes in 1983-84. Experts tend to agree that by proper use of land and water resources, India has the potential to produce 250 million tons or more by the end of the century. Two critical questions arise in this context. First, the harsher lessons of the successful "green revolution" which began in the late 1960s in the northwest of India in irrigated areas, helped by subsidized inputs like inorganic fertilizers, pesticides, high yield seeds, and cheap labour. The short-term benefits have been high, but the green revolution has unexpectedly colluded with the industrial and urban growth to damage the quality of water, fertility of soil and genetic diversity of crops. There is evidence in India, as elsewhere, of vegetables becoming harmful for consumption because the pesticide content they may carry. Second, the substantial farmer, rather than the marginal peasant, reaped the harvest, increasing inequality and poverty. Here again, answers are available, such as balanced use of chemical fertilizers and organic manure, and the elusive policy aim of land reform to give the tiller a stake in the land and its yield.

6.9 The order of environment-related imbalance, as outlined, places an unprecedented burden on the poor, in tribal as well as other areas, on the women in particular. Their ability to meet the daily demands of fuel, fodder and water is diminishing. Clearly, a viable response to the mounting environmental problems must include non-conventional, ecologically sustainable energy sources such as biogas and solar power. Concurrently, modes of social organization may have to be evolved to restore, perhaps in new ways, the customary access of the poorer segments to resources common to the community, like forests, pastures and surface water.

6.10 Investigations have shown that the quality of air and water is steadily

deteriorating across the country. The natural process of recuperation of the eco-balance of oxygen and water, continues to be harmed by the rapidly growing modern industrial sector. For example, the life-giving Ganga, is among the most polluted rivers anywhere. An ambitious cleaning project has started, but, in the long term, prevention rather than cure is necessary in a national situation where 70 percent of the available water is polluted, the small snow-fed Himalayan streams being among the few exceptions.

6.11 Epidemics like cholera and jaundice erupt periodically in the major cities, on account of water being unfit for drinking. Water-related diseases have been leading killers of infants and children. They are also the reason for the loss of millions of work days each month. The sources of water pollution are two-fold: first, insanitary surroundings in which the poor majority live and the unhygienic practices they tend to follow on account of poverty and ignorance; and second, the large daily discharge of effluents into rivers and other channels by factories, despite legal safeguards. Public pressure is building up and science learning is stimulating social activism but the tide of water contamination is still to be stemmed.

6.12 The study of air pollution in India is relatively recent. The Bhopal tragedy (December 1984) consequent on the extensive leak of toxic gas from a chemical factory is an example, by no means unique, of the ineffectiveness of laws, by themselves, to prevent harm. While air pollution is being controlled and on the decline in many countries, it remains high in India from two causes broadly: at the household level from cooking on wood, dung and crop wastes; and, it is increasing on account of uncontrolled industrial pollutants especially from thermal power generating units. A village level study in Gujarat showed that women while cooking inhale 40 times the volume of suspended particles, considered safe by WHO. This exposure increases during the rains when the ventilation of the cooking space is further reduced. A switch from scarce fuelwood to cowdung generates even more pollution. A study in Delhi concluded that women's exposure to

woodsmoke increases the incidence of enlargement of the heart. It also increases the effect of anaemia by reducing the haemoglobin available in the blood, in a national context where around half of the women may be anaemic. Reportedly, New Delhi has the dubious distinction of being one of the three cities in the world with the heaviest load of airborne chemical particles.

6.13 Environmental air pollution is increasing steadily. In 15 years, the quantity of sulphur dioxide released into the air is estimated to have tripled. Acid rain is now found in industrialized areas like Bombay, Delhi and Pune. Of the 48 thermal stations officially surveyed in 1984, 31 had no pollution control measures and only 6 had their pollution control equipment functioning properly. The rapid increase in the number of motor cars and two wheelers is a daily source of pollutants in large cities and a significant cause of tuberculosis and respiratory ailments.

6.14 The concern for conserving the environment is reflected in a number of legislations: for example, the Water (Prevention and Control of Pollution) Act 1974, a similar law of 1981 related to air and the Environmental Protection Act, 1986. All the same, the application of these laws had remained weak in the absence of a strong public regulatory agency which has the power to enforce on its own (rather than through a court of law) the norms wherever they are violated.

6.15 The foregoing discussion points to two issues being currently debated:

- Can improved technology and organization protect the development process from ecological mistakes and assure higher production and living standards?
- Can the concept of development be redefined so that the needs of the people do not go against the grain of nature?

Meeting basic human needs is a primary goal of development; but basic needs have come to be defined, no longer in conventional terms like food, clothing and shelter but more fundamentally as land, water and

oxygen. The constraints ahead relate not just to the availability of resources but also to the impact of their use on the physical environment. Population growth and migration, discussed in the sections that follow, increase that impact. Unless the goals of development are right, technology and organization may not suffice to protect the future. Life-style, income, social organization, technologies in use and socio-economic inequalities are elements that enter the equation. A balance must be struck between economic benefits and present and future human and social costs, if the price of progress is not to be a charge on children.

Population growth

6.16 Many analysts consider population growth as *the* priority facing India, more so because a solution commensurate with the problem is not yet at hand. Clearly, it ranks alongside, and is closely interlinked with major concerns like unemployment, material poverty, rapid urbanization and environmental degradation. The population size has increased from 342 million in 1947 to 685 million in 1981 and is estimated at 840 mn as of March 1990. The current annual net increase of some 15-16 mn is the highest for any country, including China. The practical implications of this order of population growth are staggering, in terms of the additional needs each year of food, clothing, housing, health care and schooling. The density of population (1987) is estimated at 256 persons per square kilometre in India against 120 in China. The findings of the 1991 Census suggest 844 mn, but on earlier indications, the population size in the year 2001 was expected to be over 986 mn, in a 'medium' projection. This estimate is linked to the assumption that 53 percent of the eligible couples will be protected by one family planning measure or another by the turn of the century, as against less than 40 percent in 1988. The possibility and level of a stable population size sometime in the first half of the next decade is contingent upon a variety of factors, primarily including the choice women will have on family size. Tables 6.1 and 6.2 presents in outline some of the main demographic trends.

TABLE 6.1

Demographic trends in India, 1901-1981

| Census Year | Total Popula- tion (mn) | Decadal variation (%) | Annual average exponen- tial growth rate(%) | Sex ratio (females per 1000 males) | Density of popu- lation per square kilometre | Urban popu- lation (% of) total | Birth rate per 1000 popu- lation for the decade | Death rate per 1000 popu- lation for the decade |
|-------------|-------------------------------|-----------------------------|--|--|--|---|---|---|
| 1901 | 238.4 | - | - | 972 | 77 | 10.84 | - | - |
| 1911 | 252.1 | 5.73 | 0.56 | 964 | 82 | 10.29 | 49.2 | 42.6 |
| 1921 | 251.3 | 0.31 | 0.03 | 955 | 81 | 11.18 | 48.1 | 47.2 |
| 1931 | 279.0 | 11.00 | 1.04 | 950 | 90 | 11.99 | 46.4 | 36.2 |
| 1941 | 318.7 | 14.22 | 1.33 | 945 | 103 | 13.86 | 45.9 | 37.2 |
| 1951 | 361.1 | 13.31 | 1.25 | 946 | 117 | 17.29 | 39.9 | 27.4 |
| 1961 | 439.2 | 21.51 | 1.96 | 941 | 142 | 17.97 | 41.7 | 22.8 |
| 1971 | 548.2 | 24.80 | 2.20 | 930 | 173 | 19.91 | 41.2 | 19.0 |
| 1981 | 685.2 | 25.00 | 2.25 | 933 | 216 | 23.31 | 37.2 | 15.0 |
| 1987 | 776.3 | - | 2.12 | 938 | 256 | 25.40 | 32.2 | 10.9 |

Source : Registrar General : Expert Committee on population projections;
Sample Registration System.

TABLE 6.2

Percentage distribution of children by age group out of total population

| | Age in years | | | | Total Popu- lation (mn) |
|-------|----------------|----------------|----------------|----------------|----------------------------|
| | 0- 4 | 5- 9 | 10-14 | 0-14 | |
| 1951 | 13.5 (12.1) | 12.7 (0.32) | 12.2 (21.2) | 38.4 (10.4) | 361.1 |
| 1961 | 15.1 (37.4) | 14.7 (42.3) | 11.2 (13.2) | 41.0 (31.4) | 439.2 |
| 1971 | 14.5 (20.4) | 15.0 (26.8) | 12.5 (39.5) | 42.0 (27.9) | 548.2 |
| 1981* | 12.6 (22.0) | 14.1 (12.4) | 12.9 (20.4) | 39.6 (18.1) | 685.2 |

* Excludes Assam

Note : Figures in brackets show decadal change (%)

Source : Registrar General.

6.17 The major trends in vital events such as birth, death and marriage were noted in the preceeding chapters in respect of children and women. Since 1951, there have been two significant developments, consequent on successful control of deaths due to famines and epidemics: first, mortality has declined from 27.4 per thousand population in 1951 to 10.9 in 1988 (though

the corresponding fall in the infant mortality rate has been much slower, from 146 per thousand live births over 1951-61 to 94 in 1988); second, over the same period, life expectancy has increased from 32 years to around 58 years. For 1981-86, the life expectancy for females is higher at 56.4 years than that of men, at 55.6 years. Coupled with the continuing high birth rate on ac-

DIAGRAM 6.2

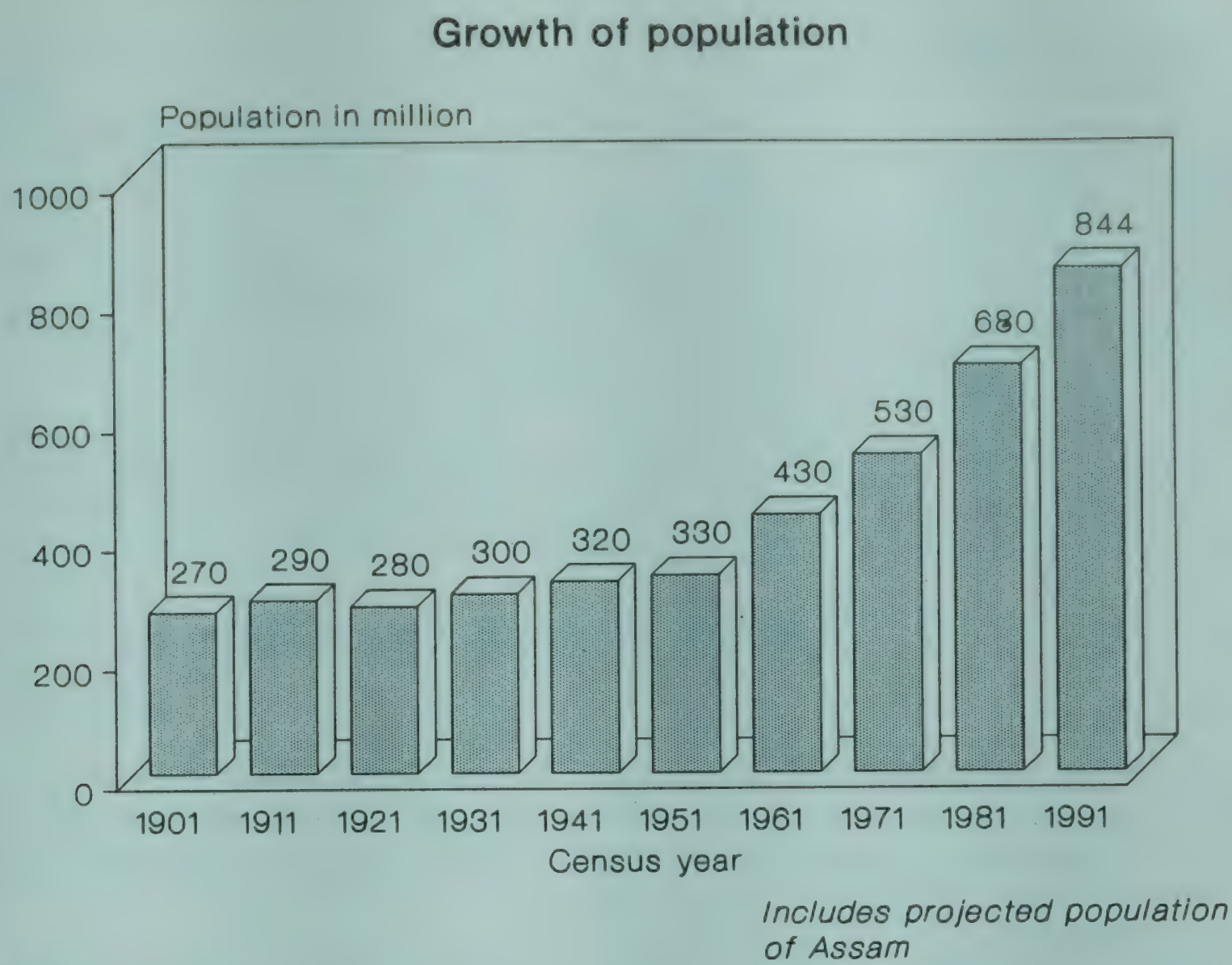


DIAGRAM 6.3

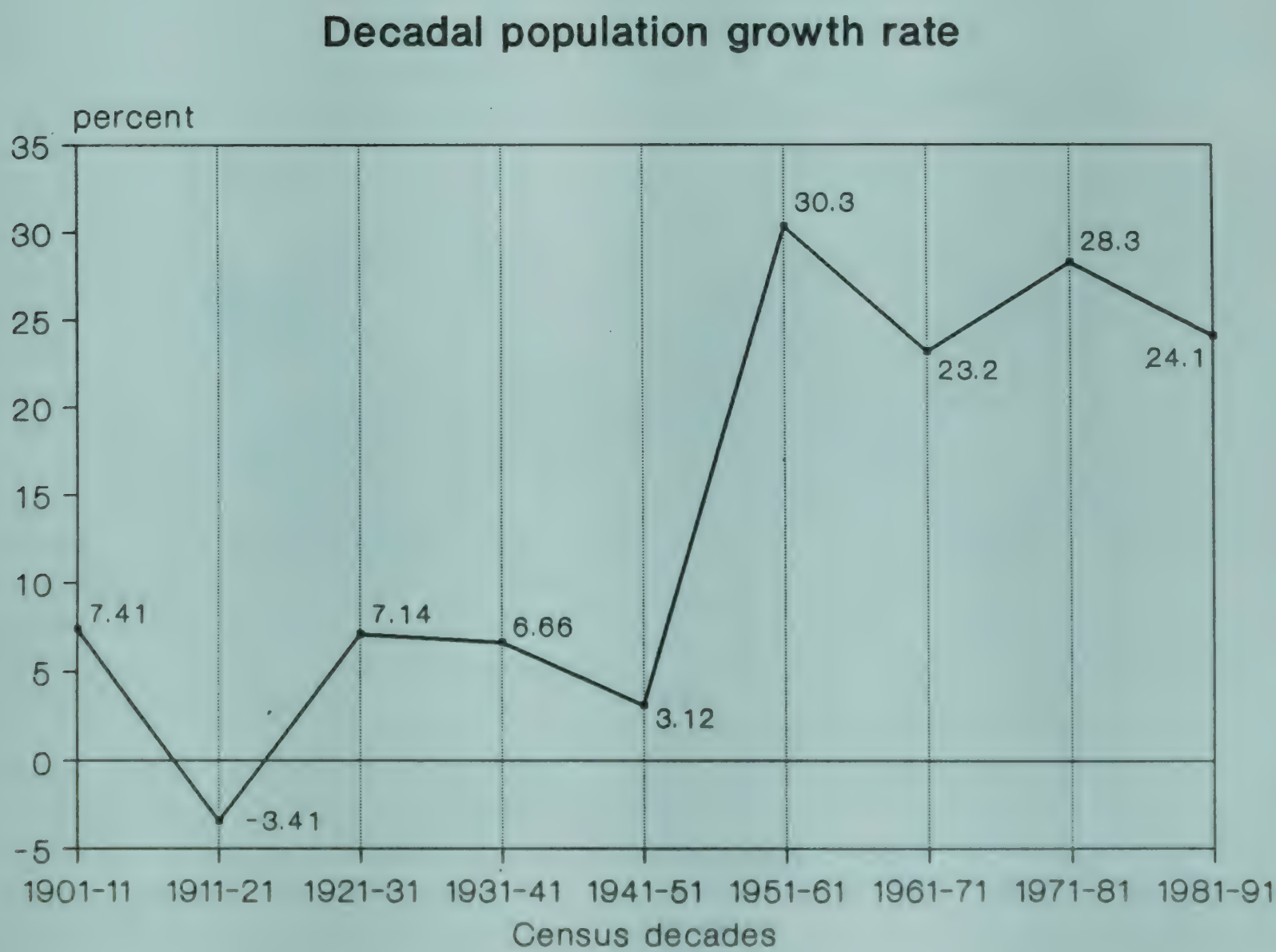
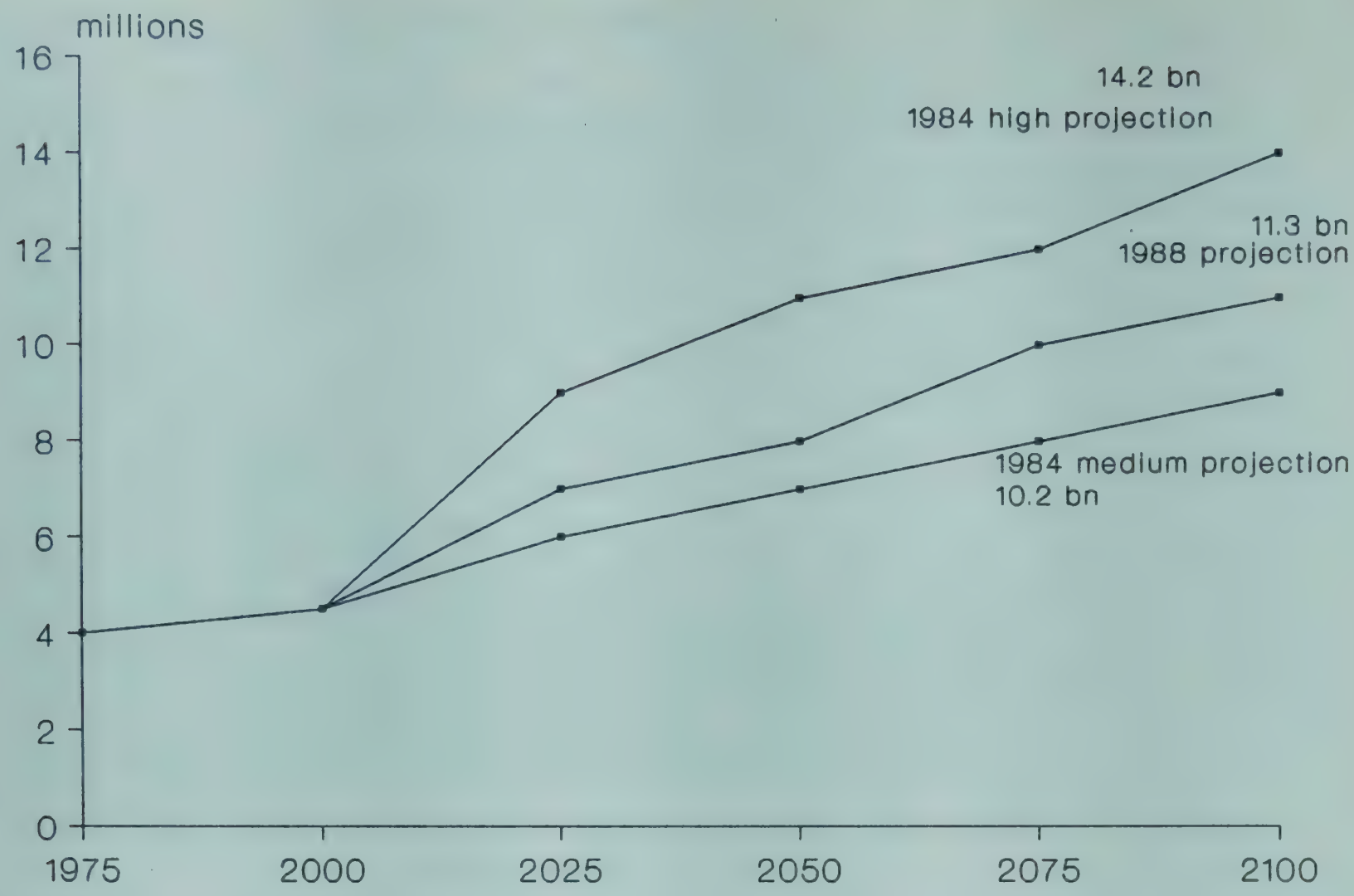


DIAGRAM 6.4

World Population Projections



population in thousands



Source: United Nations

TABLE 6.3

Distribution of population by age group

| Age-group (percentage) | 1971 | 1981* | 1991 | 1996 | 2001 |
|-----------------------------|--------|--------|--------|--------|--------|
| 0 - 4 | 14.51 | 12.55 | 12.62 | 11.57 | 10.46 |
| 5 - 9 | 14.96 | 14.08 | 12.04 | 11.15 | 10.21 |
| 10 - 14 | 12.55 | 12.22 | 10.89 | 10.99 | 10.27 |
| 15 - 19 | 8.66 | 9.64 | 10.80 | 9.93 | 10.10 |
| 20 - 34 | 21.91 | 22.61 | 24.63 | 26.01 | 26.30 |
| 35 - 59 | 21.43 | 21.66 | 22.45 | 23.28 | 24.74 |
| 60 - 0+ | 5.94 | 6.54 | 6.54 | 7.07 | 7.70 |
| All Ages (mn population) | 548.16 | 685.16 | 837.25 | 913.25 | 986.10 |

* Excludes Assam

Figures for 1991, 1996 and 2001 based on 'medium projection'.

Source : Registrar General

count of the subdued results of family planning, these trends explain the rapid decennial growth rate (25 percent) during 1971-81.

6.18 India's demographic transition from high birth rates to low birth rates is taking time. While the success of the family planning programme is essential, it is not sufficient in the sense that family planning 'targets' may not be attained independently of deeper development concerns. Two related issues emerge sharply from the wide-ranging debates over a long period: Attempts at reducing population growth cannot be delinked from meeting the basic needs of the poorer segments of the population who contribute the most to the high birth rate. These needs relate to basic education, essential nutrition, primary health care, shelter and sanitation and, to sustain all these, a social environment supportive of employment and equity. The effects on fertility of female education, female employment, child labour and old age security need to be recognized.

6.19 Limiting family size is a concern of those who want to ensure a minimum standard of living. For the very poor there is no standard to worry about. Engaged in a constant scramble for scarce resources, they see little hope for improving the condition or quality of their life and are not easily

motivated to invest more in each child and to limit the number of children. For them the socio-economic cost of additional children is negligible. And the children soon start adding to the meagre family income. When the child mortality is high, a higher birth rate is needed to have enough surviving children. It must be remembered that the average death rate, (some 15 deaths of children under 5 years of every 100 born) increases with poverty.

6.20 It is an experiential lesson that the larger the size of the population, the more difficult it is for a developing country to assure all the children the prospect of realising their full potential on account of resource constraints. For reasons noted in Chapter 2, only around 4 million children out of the 26 million born each year would live to be truly healthy—on the findings of the National Nutrition Monitoring Bureau on nutrition-and-health status. Linked to this nexus is the 'basic need' to give women a voice in avoiding unwanted pregnancies. Also, in nearly every country studied in recent years, literate women have been found to have fewer and healthier children than illiterate women. Both these considerations argue that family planning should not become an end in itself and geared to physical targets, a propensity which leads to inflating coverage by including over-age women. Rather, family plan-

TABLE 6.4 Use of family planning.

| | Percentage | |
|----------------------|-----------------|-----------------|
| | wife aged 20-24 | wife aged 35-39 |
| <i>Rural parents</i> | | |
| 0 son, 3 daughters | 2.95 | 6.51 |
| 1 son, 0 daughter | 5.06 | 11.67 |
| 3 sons, 0 daughter | 16.80 | 20.42 |
| <i>Urban parents</i> | | |
| 0 son, 3 daughters | 15.76 | 19.43 |
| 1 son, 0 daughter | 13.76 | 30.47 |
| 3 sons, 0 daughter | 26.15 | 33.72 |

Source : K E Vaidyanathan 1988 (quoted by UNFPA)

ning is intended to remain integral to the development process with higher goals including mother-and-child health and women's equality.

6.21 The four states, Uttar Pradesh, Bihar, Madhya Pradesh and Rajasthan, together account for about 40 percent of the country's population (Table 6.5). In these, as well as the other states with high population growth rates, much of the motivational effort is concentrated in the urban areas to the relative neglect of the rural interior.

6.22 There are two other states with birth rates significantly higher than the national

average: Haryana (34.4) and Assam (33.5). While Haryana has a relatively low mortality rate, the rural female literacy rate as well as the female mean age at marriage are well below that of the country as a whole. In Assam, the rural infant mortality rate is higher, and trained birth attention and couple protection rate are lower than the national levels. Clearly, a comprehensive socio-economic development agenda, rather than a narrowly defined demographic approach, appears necessary in relation to the population problem. More so, within a democratic political orientation, where parental perceptions must be taken into account and persuasion, incentive and self-motivation must prevail over elements of compulsion.

6.23 The national aim of bringing the net reproduction rate to one by the end of the century, and the average family size to 2.3 (as against 5.6 in 1981) is contingent on a two-child norm, a birth rate of 21 per thousand population and a death rate of 9 per thousand. Accordingly the family welfare strategy has a focus on health, child survival, women's status, literacy and education, employment and socio-economic development.

6.24 Family planning has been a part of public policy right from the first five year plan. Clinics began to be established since then in both urban and rural areas. The network of workers has spread at many

TABLE 6.5

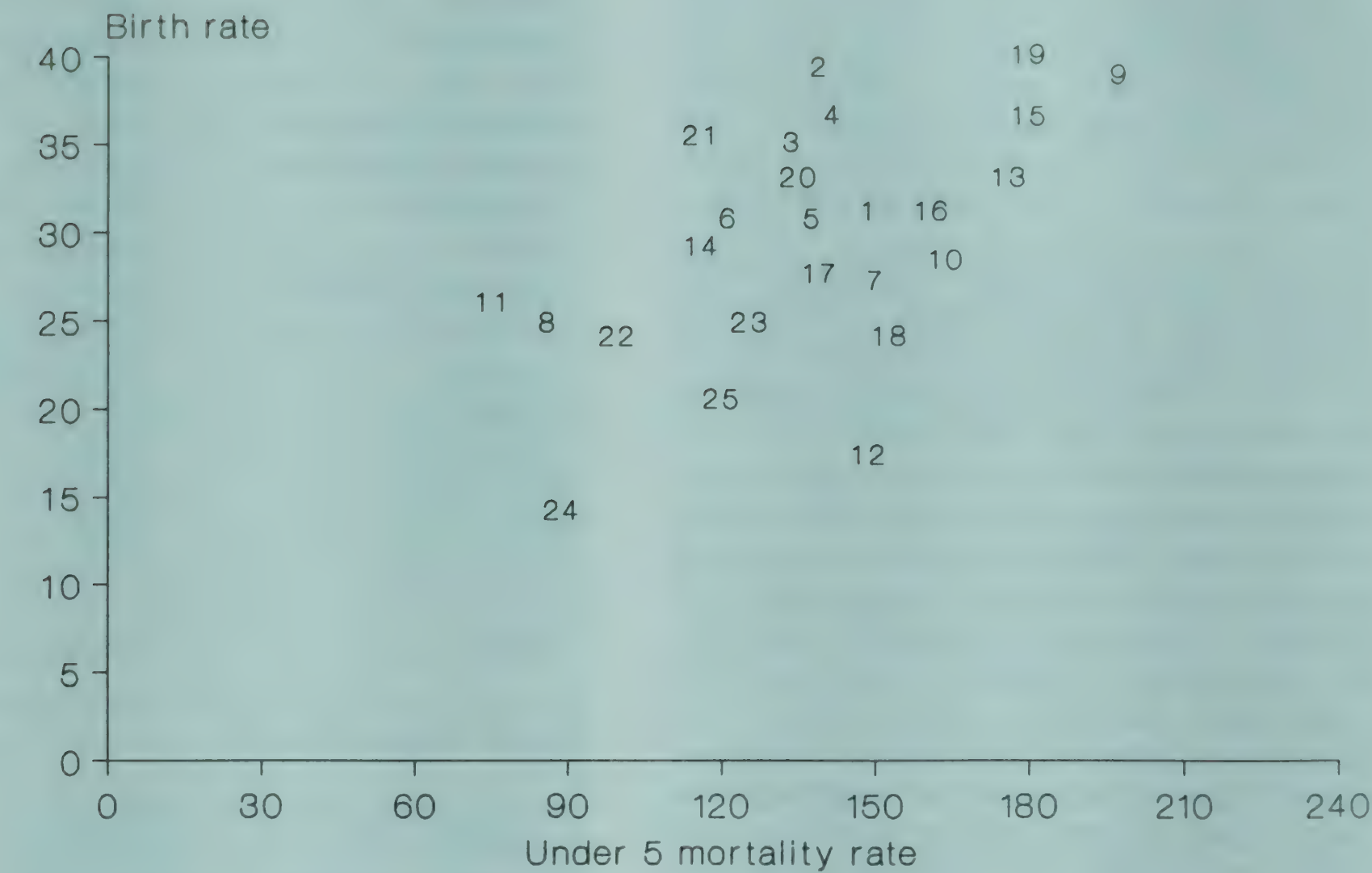
Factors in fertility control

| | Couple Protec- tion rate % | Birth rate | Untrained attention at birth (% rural) | Child deaths (0-4) % of total deaths | Female mean at marri- age (years) | Rural age literacy |
|----------------|----------------------------|------------|--|--------------------------------------|-----------------------------------|--------------------|
| | (1988) | (1988) | (1987) | (1987) | (1981) | (1981) |
| Uttar Pradesh | 28.8 | 38.0 | 80.4 | 50.1 | 16.7 | 9.5 |
| Bihar | 22.9 | 38.1 | 79.3 | 44.5 | 16.6 | 10.2 |
| Madhya Pradesh | 36.2 | 38.2 | 86.2 | 51.4 | 16.6 | 13.9 |
| Rajasthan | 27.8 | 33.9 | 88.7 | 51.1 | 16.1 | 5.5 |
| India | 39.8 | 32.0 | 67.5 | 42.0 | 18.3 | 18.0 |

Source : Registrar General : Ministry of Health and Family Welfare.

DIAGRAM 6.5

Correlation of birth rate and under 5 mortality rate, 1981



1. Andhra Pradesh
2. Bihar
3. Gujarat
4. Haryana
5. Himachal Pradesh
6. Jammu & Kashmir
7. Karnataka
8. Kerala
9. Madhya Pradesh
10. Maharashtra

11. Manipur
12. Meghalaya
13. Orissa
14. Punjab
15. Rajasthan
16. Sikkim
17. Tamilnadu
18. Tripura
19. Uttar Pradesh
20. West Bengal

21. Andaman & Nicobar Islands
22. Chandigarh
23. Delhi
24. Goa Daman & Diu
25. Pondicherry

TABLE 6.6

Birth spacing and infant mortality

| | Mortality rate of babies born | | |
|------------------|-------------------------------|--------------------|-----------------|
| | < 2 years apart | 2-3 years apart | 4years apart |
| Brazil (1986) | 130 | 60 | 45 |
| Liberia (1986) | 195 | 120 | 70 |
| Senegal (1986) | 95 | 75 | 78 |
| Morocco (1986) | 105 | 55 | 25 |
| Sri Lanka (1987) | 30 | 25 | 35 |

Source : Demographic and Health Surveys, 1988

levels. During the mid- 1960's a massive programme to popularise intra-uterine devices was launched. This was followed by the 'cafeteria approach' involving monetary incentives, mobilizing other arms of the administrative machinery and goading field workers to achieve specific targets. In the early Seventies, mass vasectomy camps were conducted along with enhanced incentives and massive publicity. An element of compulsion tried soon after was found politically unrewarding. The programme remains a policy and budgetary priority under the name of 'family welfare' and is built mainly around the concept of voluntary participation through persuasion. It is estimated that around 95 million births have been averted till 1987-88 since the inception of the programme.

6.25 Global experience shows that a fall in the child death rate is followed (but after an interval of some years) by a fall in the birth rate. The challenge in India is to compress this time lag. The control of infant mortality and control of population growth must mutually reinforce. In this context, a key insight, derived from surveys in several countries (Table 6.6), is that spacing of births (which implies lowered birth rate) helps also to reduce infant mortality; and that birth spacing is central to the health of the mother and is helped by prolonged breast feeding which tends to postpone conception.

Urban expansion

6.26 The pace and pattern of the urban growth in India is more significant than the estimated size of the urban population—which is about 160 million or some 23 per-

TABLE 6.7

Under 5 year mortality and birth rate

| 1981 | Birth Rate | < 5 MR |
|------------------|------------|--------|
| Andhra Pradesh | 31.7 | 153 |
| Assam | 33.0 | - |
| Bihar | 39.1 | 149 |
| Gujarat | 34.5 | 139 |
| Haryana | 36.5 | 150 |
| Himachal Pradesh | 31.5 | 142 |
| Jammu & Kashmir | 31.6 | 128 |
| Karnataka | 28.3 | 155 |
| Kerala | 25.6 | 83 |
| Madhya Pradesh | 37.6 | 213 |
| Maharashtra | 28.5 | 170 |
| Orissa | 33.1 | 186 |
| Punjab | 30.3 | 124 |
| Rajasthan | 37.1 | 190 |
| Tamil Nadu | 28.0 | 146 |
| Uttar Pradesh | 39.6 | 204 |
| West Bengal | 33.2 | 139 |
| INDIA | 33.9 | 161 |

Source : Registrar General.

cent of the total population, as of 1981. During 1971-81, it grew by over 46 percent. In the next decade, it will have risen by over 40 percent to an expected 230 mn. By the turn of the century, more than a third of India's population—as well as half the world's population—is likely to live in the cities and towns. This prospect presents an acute challenge to the planners. While nearly two-thirds of the urban population live in the large towns (with 100,000 or more people) and in the cities, the average growth rate of towns and cities of different size had little variation between 1971 and 1981—calling into question the earlier belief that the larger cities have grown at a faster rate. Only about 40 percent of the urban growth is on account of natural increase. The other major reason for the rapid population increase is migration from the rural areas for employment and education (mostly men) and consequent on marriage (mostly women). The 12 cities each with over a million people—Calcutta, Bombay, Delhi, Madras, Bangalore, Ahmedabad, Hyderabad, Pune, Kanpur, Nagpur, Jaipur and Lucknow—face unprecedented strain

in terms of congestion, lack of basic amenities and poverty. These cities between them accommodate nearly half the urban slum population of India.

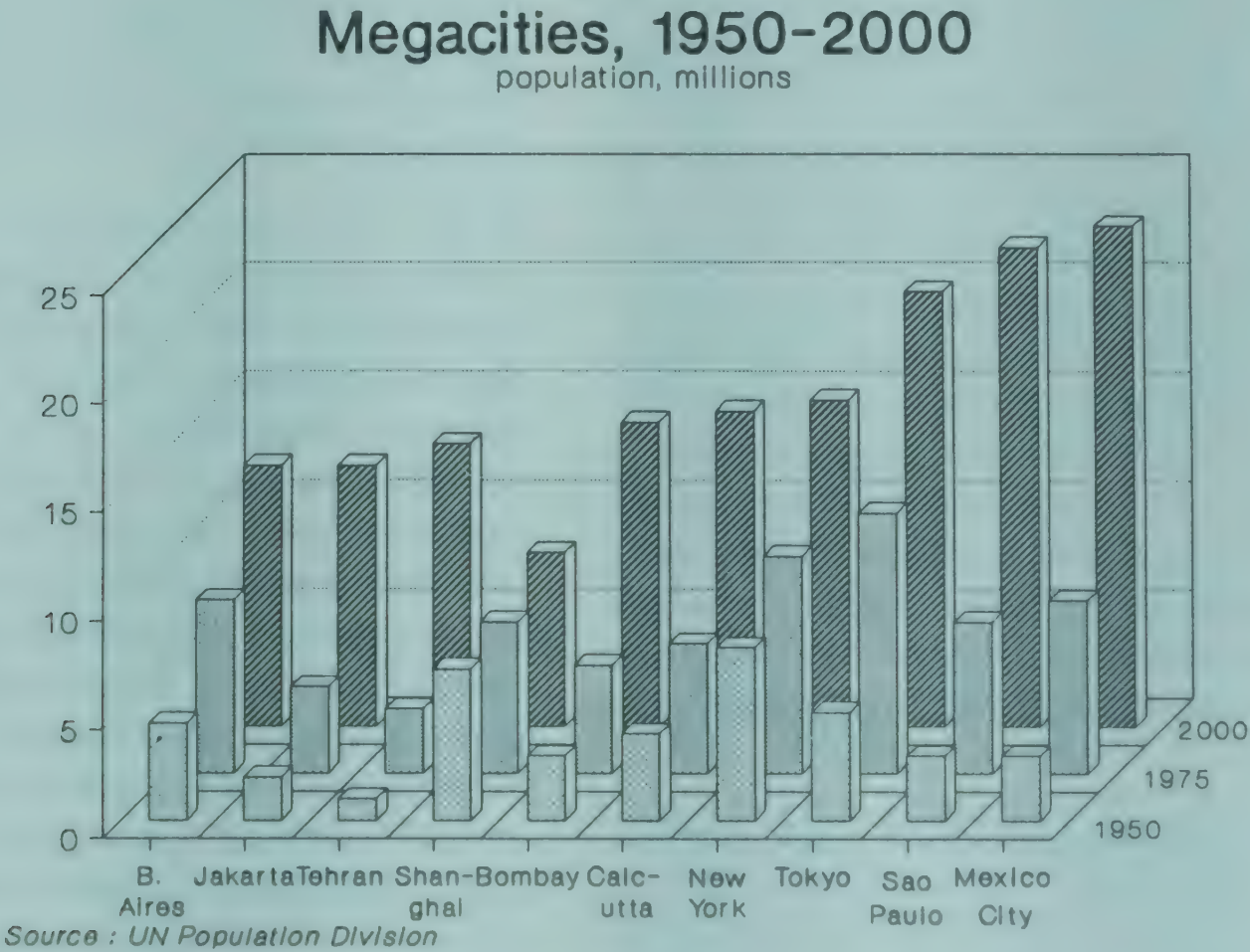
6.27 Nearly one out of every three persons living in an urban area is below the line of poverty. As of 1984-85, the urban poor numbered over 50 million—68 percent of them women and children. Among them, the proportion of scheduled castes and tribes are more than in the country as a whole. Almost half the urban poor are concentrated in the four metropolitan cities. The percentage of the city population living in the slums and pavements of Calcutta is estimated at about 42, followed by Bombay (38), Delhi (40), Kanpur (37). These are substantially above the levels indicated by the 1981 Census. Some 40 percent of the households in urban India did not have electricity, some 25 percent had no safe drinking water and 40 percent no sanitary facilities. It is reasonable to infer that these figures relate more or less to urban slums.

6.28 Measured by the level of income needed to meet subsistence needs, mainly of 2100 calories per day, the proportion of people in poverty as officially defined is lower in the urban areas than in the rural

areas. The 1987- 88 estimate was 19.5 per cent. The relatively lower poverty level is linked to the high work participation rate among the urban poor (mostly as unskilled and semi-skilled workers at low wages in the informal sector). The urban poor cannot afford to remain unemployed; and in case of illness, they have hardly anything to fall back upon. A 1987 study of Calcutta's pavement dwellers showed a weekly income ranging between Rs.30 (beggars) to Rs.114 (sweepers), the categories in between consisting of porters, handcart pullers, casual labourers, rickshaw pullers, hawkers, drivers, domestic servants, helpers, rag pickers, shop-assistants, tea shop keepers, vegetable vendors and sundry others. Each of them was willing to pay for shelter, if they could find one.

6.29 Urban poverty should take into account not only the economic level but in addition the environmental deprivation. The neighbourhood characteristics are at least as relevant to the 'quality of life' as household income. More than two- thirds of the urban slum population live in improvised dwelling units; and nearly three-fifths are squatters liable to be ejected from the land they occupy. Most households have 4-7 members, the average size being

DIAGRAM 6.6



5.2. More than three fourths of the urban poor families live in single rooms or make-shift shelter. A like proportion had no household sanitary facilities. Water supply is usually available but from a public source.

6.30 The number of children (0-14 years) in urban areas will have increased from about 58 mn in 1981 to 75 mn in 1991. The number of children in the slums by 1991 would be about 20 mn. Unfortunately, there are few indicators specifically for children in urban slums, the urban averages obscuring their real situation. The urban infant mortality rate (Chapter 2, Table 2.2) and age-specific mortality rates (Chapter 3, Tables 3.1 and 3.4) are better than the rural rates. How far these positive trends translate to the urban slums is not clear. There are some indications that the female mortality differentials in slums may be reducing, faster during infancy than during early childhood. While fewer children die in urban areas than in rural areas, there are sharp inter-state variations reflected, for example, in the percentage of deaths of children 0-4 years to total deaths in urban areas: 12.7 in Kerala against 40.7 in Madhya Pradesh and 42.3 in Rajasthan, as of 1987.

6.31 As noted in Chapter 2, the infant mortality rates in the slums of Calcutta, Delhi and Bombay are high at around 86, 91 and 78 respectively. The major causes of urban infant mortality as identified by a 1979 national survey were prematurity, tetanus, pneumonia, dysentery and diarrhoea. A 1980-81 study in Bihar pointed to whooping cough, diarrhoea, pneumonia and worm infestation. A survey of Delhi slums identified common childhood illnesses as fever (including malaria), diarrhoea, digestive disorders, skin ailments and respiratory diseases. A study of Kharagpur slums (West Bengal) found the common causes of child death to be diarrhoea, upper respiratory infection, fever, malnutrition and small size at birth.

6.32 While health facilities are usually available near urban slums, these may or may not be used. A study (1981-85, ICMR) of urban slums in Madras, Delhi and Calcutta, showed that 85 percent of the people did not make use of the available maternal-and-child-health services, about three-fourths of

the births did not have any visit by the health functionary of the area. Similar reports have come from Bombay and towns in Bihar. However, a study (by Operations Research Group, Baroda) of selected slums in five cities, showed better access and use of health services by both mothers and children.

6.33 A recent study of nutritional status of urban slum children of preschool age in Delhi showed nearly 82 percent had protein-energy malnutrition (44 percent grade II, 5.7 percent grade III and 0.2 percent grade IV); higher among girls (47.94 percent) than among boys (33.95 percent); more among 1-3 year olds than those below one year or over 4 years. The ICMR study (1981-85) of urban slum children 0-6 years of Madras, Delhi and Calcutta showed the proportions in the four grades I to IV as 40.9, 26.6, 6.4 and 1.2 percent respectively. Deficiencies in iron, iodine and vitamin A have been reported among urban slum children. How infant feeding practices are worse off in urban areas at least in relation to breast feeding was noted in Chapter 2. Based on data collected by the National Nutrition Monitoring Bureau from 15 major cities, it has been inferred that the energy intakes of the urban slum dwellers were similar to those of the landless and lower than the rural average. Thus the urban slum population seem to be worse off than the average rural Indian in dietary and nutritional terms.

6.34 As seen in Chapters 4 and 5, urban areas fare better in literacy and schooling than rural areas, with particular reference to female children and adults. It was clear that gender differentials were strongly present at both the levels. These data however did not clarify the situation in urban slums. It is seen that against an urban literacy rate of 57.4 percent, that among the urban poor was 28 percent. A 1987 survey of the urban poor in 20 centres showed over 63 percent of 5-14 years olds studying, over 9 percent were working for a wage and some 27 percent helping at home or whiling away their time. An earlier study in Delhi slums showed two-thirds of girls, 10-14 years, out of school. A recent survey by Operations Research Group in urban slums in 5 cities showed around 60 percent of 6-14 year olds

attending school in each of the cities: 61-89 percent of boys and 46-83 percent of girls. Most studies point to the sharp disparities between slum and non-slum schools in terms of physical facilities, quality of teaching and suitability of curriculum on one hand and non-enrolment, drop-out and stagnation on the other. The problems faced by children tend to be acute in the case of girls and children of the scheduled castes and migrant families. On the positive side, the urban poor have increasing access to incentives like school uniform, school meals, text books and scholarships. Also, voluntary groups are relatively more active in urban areas.

6.35 The urban poor have more than their share of girls and boys of school age working for a wage, as domestic servants, at construction sites, in a wide variety of unskilled jobs in the unorganized sector and in small scale ancillary units feeding into larger industries. Studies show that an increasing percentage of urban labour is being turned into low wage casual labour, 15 percent males and 27 percent females during the 1977-88 period. Child labour accounts for 4.3 percent of working males and 7.2 percent of working females in 1987-88. The latter-day phenomenon of 'street children', noted in Chapter 4, is of urban origin, reflecting the kind of alienation common in an impersonal urban milieu.

6.36 Two inferences emerge from an analysis of the escalating physical and social problems faced by urban settlements and in particular the slums. One, in view of the various limits to the capabilities of the governments: city, state and national—to solve problems specific to each neighbourhood, local initiatives by the people themselves have to assume primary (though not exclusive) responsibility for action. Two, considering that much of the urban issues are of rural origin, indeed a translation of unsolved rural problems to urban areas, they need to be tackled at source. This would be facilitated if a region comprising both the urban areas and the rural hinterland is seen as a continuum and taken as a single spatial unit for planning.

Water supply

6.37 Water resources as a primary aspect of the physical environment were reviewed

earlier in this chapter, with an indication of periodic regional scarcity or flood. Clearly, water is in the forefront of the global resources the supply and demand aspects of which call for unusual skills in cooperative management. In this section, the varying nature and extent of people's access to water supply is briefly assessed in terms of policies, programmes and services—keeping in view the interface of this effort with health, education and economic conditions. Given the differing contexts, the urban and rural services are discussed separately.

6.38 *Urban situation:* In 1981, the urban availability of water for drinking and other essential purposes was estimated at 72 percent in terms of the population covered with some 7 states having a coverage less than 50 percent. By 1985, this proportion increased by only less than one percent, with only 13 states recording an increase. The service level of water supply in the capital cities of different states varied widely in 1981, for example, from 65 litres per capita per day in Bangalore and 36 lpcd in Shillong to 600 lpcd in the new city of Gandhinagar in Gujarat and 300 lpcd in Chandigarh. A 1988 survey of 133 major towns showed an average supply of 142 lpcd, the ratio of utilisation to designed capacity being 82 percent. Against a per capita demand of 231 litres a day, the average supply of 142 litres, meant a shortfall of over 38 percent. Further, a sample of nearly 10,000 households surveyed in different states indicated that 31 percent of the households considered that the quantity of water was inadequate. The goal of adequate supply of safe water to all of the growing urban population is thus some way away.

6.39 The above picture appears somewhat abstract seen against the situation of poor urban households. A 1988 survey showed that over 93 percent of the households had no source of their own and depended on a public tubewell or tap. In the case of households living below the poverty line, the percentage was above 96.

6.40 *Rural water supply:* As in the case of sanitation, water supply falls under the responsibility of the respective states with the central government providing funds to match those mobilized by the states. As a

result of this, as well as on account of the wide variation in socio-economic, geohydrological and policy perceptions, the pace of progress has varied from state to state. The availability of drinking water to the rural population was estimated at 20.8 percent in 1981. By 1985, there was significant progress to about 54 percent.

6.41 Around mid-decade, the coordination and direction of the earlier 'accelerated rural water supply programme' was entrusted to the National Technology Mission for Drinking Water. The aim was to bring technological and managerial capabilities together to conserve water and recharge aquifers, eradicate guineaworm, control fluorosis, remove excess iron and desalinate water. Modern methods of geophysical investigation including remote sensing and satellite imagery are used for identifying water resources.

6.42 While investment in water supply is more than warranted as a means to reduce disease, save women's time and drudgery and improve living standards, the level of investment can be kept under control through strict adherence to quality-specifications, technological efficiency and concern for the user's interest. The evolution of the indigenous handpumps, used in conjunction with deep drilling with modern rigs that can bore through hard and rocky formations, is a case in point. The hand-pump was not created in a laboratory but evolved at the village level through trial by users and responses by the producers. The technical specifications of the pump for example ensure that it is easy of installation and operation, it is not easily damaged and water does not get contaminated. These qualitative aspects coexist with competitive manufacture and prices. Alongside, Indian industry has steadily acquired manufacturing capability of capital-intensive drilling equipment. Recent surveys suggest that some 96 percent of the India Mark II hand-pumps in the country are in working order.

6.43 The pace of technological progress, in support of a basic social objective, is being maintained, through further efforts to improve the mechanisms both below and above ground. Equally important, the local community, particularly women, are being involved to determine the location and to

maintain the facility, so as to enhance its usefulness and linkages with other basic services.

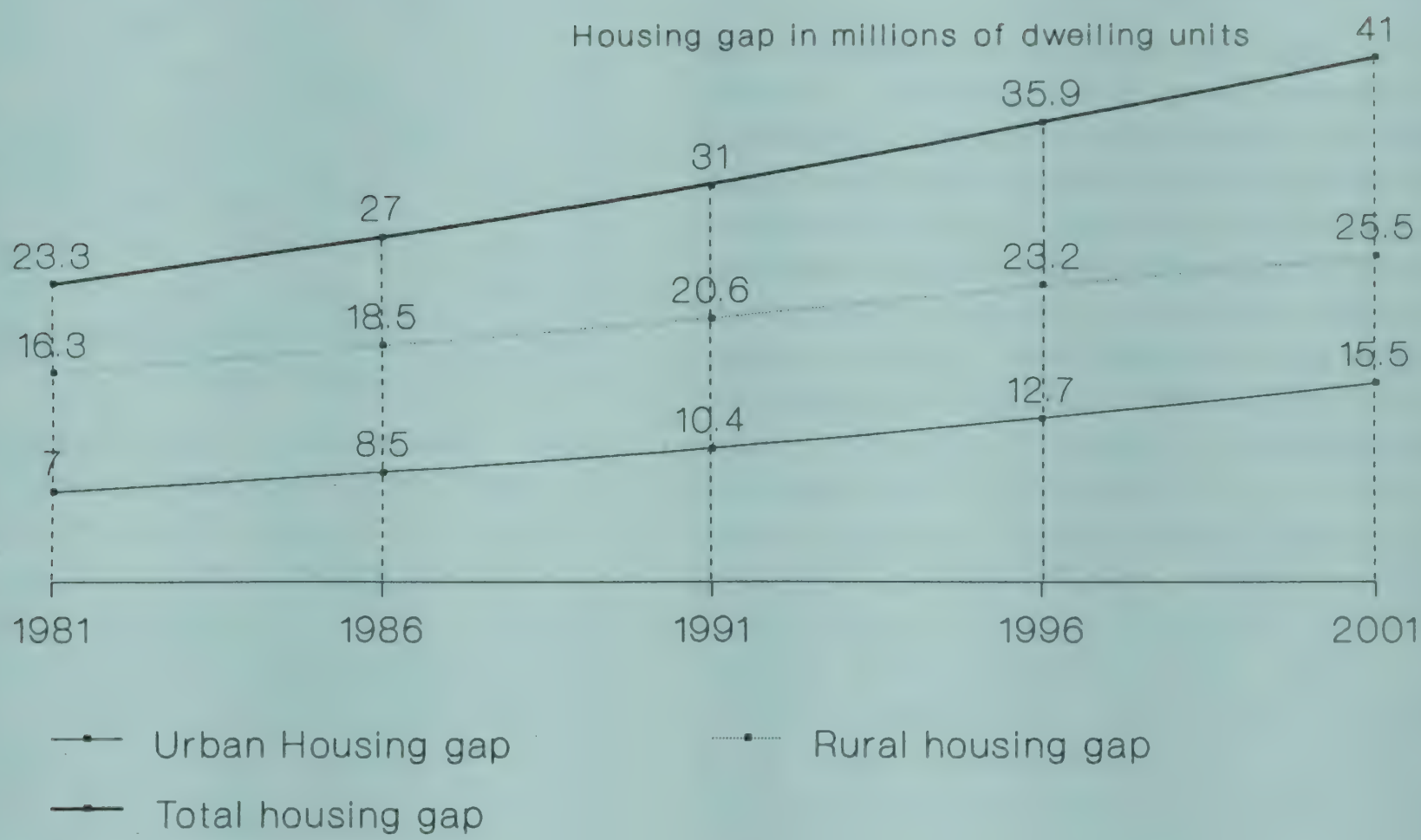
6.44 The 'target' for rural water supply centres on the concept of a 'problem village' and is defined in terms of access (water source within a distance of 1.5 km, an elevation difference of 100 metres and a depth of 15 metres); quantity (40 lpcd provided by one handpump or standpost for every 250 people; plus 30 lpcd in desert areas for cattle); and quality (free from toxic elements, infection and other contamination).

6.45 Apart from 'covering' problem village as identified from time to time, water supply facilities are to be extended to villages according to better norms of distance, quantity per person and tubewell or standpost for a given population size. Tribal habitations merit different parameters appropriate to terrain while the access of scheduled castes has to be specially provided for. The concern for water quality calls for transfer of technologies for water purification from laboratory to factory to field. Coverage, cost, quality and viability are being pursued in a coordinated manner under the 'mission mode'.

6.46 During 1985-90, the aim was to reach safe water to the entire population, by providing at least one source to each problem village — mainly a drilled deep well fitted with a handpump. The number of problem villages requiring attention varies with changing conditions, for example, drought, as in 1986-87. During 1985-90, some 157,500 villages were supplied with a water source, compared with 192,000 over 1980-85. The assessment as of March 1990 is that there remained 7000 villages with no water source and around 90,000 which were only partially served, the total number of villages in the country being around 590,000.

6.47 This order of achievement has four broad implications: First, it is possible to reach the decade target in rural water supply in physical terms. Second, considerable problems remain in terms of water quality, maintenance of installations and technical solutions to location-specific problems. Third, organizational and managerial chal-

Housing gap in India, 1981-2001



Source : Ministry of Urban Development
(National Building Organization)

allenges are posed by modernizing trends and expansion of physical facilities. And, fourth, the time has come not only to consolidate the gains of indigenous technology, but also to strengthen linkages of the water sector with sanitation and health, especially in relation to children and women. It is recognized that public awareness of the need and means of proper 'water management' has to be built up—mainly through a mutual process of educational communication, involving voluntary agencies and community structures to a much greater extent than before.

Shelter and sanitation

6.48 The widening gap in housing in India continues to be a middle-class concern, with the much vaster and more acute need of the people in the slums and others living below the poverty line, hardly entering the calculation, much less receiving priority attention. Millions of pavement dwellers in the large cities represent the extent of social neglect. The fact of environmental degradation of urban low income groups has tended to eclipse the larger reality of the squalid conditions of those who hardly have a shelter. According to a Planning Commission study, some 31.2 percent of the total urban population was without sanitation services. In the squatter settlements of Delhi, it was not unusual for a make-shift hut of 2.5 x 3 metres to accommodate a family of four. In these areas, around half the people used open places for defecation. Dirty water collected to stag-

nate in and around the drains. In the slums of Bangalore, the number of persons using a single water standpipe varied from 40 to 428.

6.49 The shortage of shelter in rural areas is less visible and harder to assess than in urban areas. Estimates indicate that in 1981, the total number of households were around 125 mn, while the 'acceptable housing stock' was less than 102 mn, resulting in a shortage of around 23 mn for both rural and urban areas. This gap (which should be considered an under-estimate in view of the very low 'norms' adopted for 'acceptable' housing) is expected to have increased to 27 mn by 1986 and will have widened to 31 mn by 1991 and to 41 mn by 2001. Roughly two-thirds of this shortage represent the very poor shelterless and one-third low-income groups presently making do with some kind of temporary housing. In either case, the low affordability of those in need explain the present and future trends: Table 6.8.

6.50 Several factors have been identified as essential for achieving a substantial increase in the supply of shelter for the poor. As land has priced itself out of the reach of the poor, alternative means of providing sites as well as services need to be found. Conventional building materials should be made available in reliable quality and at low prices; innovative alternatives need to be promoted using traditional materials and modern technology; and regulatory provisions simplified so as to increase the

TABLE 6.8

Shortage in shelter

| | 1981 | 1986 | in million 1991 | 1996 | 2001 |
|---|-------|-------|--------------------|-------|-------|
| Total households (Rural + adjusted urban) | 124.8 | 141.4 | 160.6 | 183.0 | 209.2 |
| Total housing stock | 116.7 | 131.5 | 148.8 | 168.8 | 192.6 |
| Acceptable housing stock | 101.5 | 114.4 | 129.6 | 147.1 | 168.2 |
| Housing gap | 23.3 | 27.0 | 31.0 | 35.9 | 41.0 |

Source : National Building Organization.

access of the poor to serviced land. Some of these principles enunciated the National Commission on Urbanization (1988) have a relevance to rural regions as well and await to be applied flexibly to the poor in both urban and rural areas. On a non-government initiative in this direction involving a number of voluntary groups and with government support, some 200,000 low-cost houses have been constructed in Kerala in a three-year period, for the shelterless.

6.51 The story of sanitation is closely linked to conditions of shelter as well as sources of water supply. Admittedly it has had a late start and a low priority on the planning agenda. Progress in extending sanitary facilities has remained extremely slow in both urban and rural areas and the situation has probably worsened these past decades, partly due to population growth but mainly on account of socio-cultural conditions. Experience suggests that a decentralised process of influencing peoples' minds—from the policy level to where people live—is far more pertinent than centralized channelling of financial resources or physical inputs.

6.52 The following information provides an idea of people's access to sanitary means of disposal of human and other wastes, the poorest, and among them women and children, suffering the most consequences. According to government estimates, in 1981, only 25.1 percent of the urban population and 0.5 percent of the rural population had access to basic sanitary facilities. This coverage increased by 1985 to 28.4 percent and 0.7 percent respectively. The chances of reaching the reduced goals of the International Drinking Water Supply and Sanitation Decade of 50 percent urban coverage and 5 percent rural coverage, appear remote.

6.53 Even though the septic tank was introduced in India about 200 years ago and sewerage some 50 years later, relatively few households even in the urban areas have benefitted from these systems. Of the nearly 4000 towns and cities, only a couple of hundred have sewerage and that too partially. And in the sewered towns, not even half the households are linked to the sewer. In the rural areas, even the low cost pour

flush latrines with on-site sanitation is not widely available. An opportunity for the poor to catch up must be seen in this overall context.

6.54 According to broad estimates by the Planning Commission, in urban areas, some 20 percent of the population have access to water flush system connected to sewerage; about 14 percent have access to water flush toilets linked to septic tanks; around 33 percent use bucket or dry latrines; and the remaining 33 percent have no facilities whatever and make use of open drains, roadside berms and vacant spaces. As noted in Chapter 5, girls and women are put to extreme inconvenience by the denial of a minimum of privacy. Apart from the health hazards and environmental problems arising from defecation in open areas, there is the human problem and social segregation created by employing a class of people called scavengers, necessarily from the poorest caste of 'untouchables'. In the urban areas alone, there are an estimated 6 million bucket/dry privies which require manual cleaning and transporting of the excrement.

6.55 Studies by the All India Institute of Hygiene and Public Health, Calcutta have revealed that age-specific death rates due to gastro-intestinal disorders showed a marked decline with the introduction of water flush latrines with safe disposal of excreta. And, diarrhoeal diseases continue to account for the highest childhood mortality. While safe disposal of waste water and garbage are major sanitary problems yet to be tackled, proper disposal of excreta deserves the first attention in view of the human and health implications.

6.56 From the experience of the past three decades, three inferences emerge: First, investment on sewerage has been low which explains why only parts of some cities and towns have it. Second, the economic and bureaucratic constraints in the way of a large proportion of households converting old privies into water-borne latrines to be linked to sewers have made a good part of the investment on sewerage infructuous. And third, coercive powers under the municipal law have not succeeded either in checking open defecation or in promoting conversion of dry latrines.

6.57 Technical opinion as well as practical experience suggests that pour flush water-seal latrines with twin leach pits and on-site disposal of excreta is a low-cost, sound, hygienic and socially acceptable technology. This could be connected to sewerage where there is one and it is feasible to do so. There is a cost for converting or constructing the latrine and connecting it to the sewer; and also on account of the sewer. As the poor cannot share either, alternative approaches to providing these services to them have to be pursued.

6.58 Another experience of relevance to the poor has been community toilet complexes with bathing and washing facilities – for use by those who do not have space for individual household latrines as well as by commuters. These have functioned on a 'pay-and-use' basis, helping proper maintenance and continuous operation. Group latrines with separate cubicles for a small number of families are also a tested possibility. Low-cost sanitation systems are currently being promoted with relative success in states like Bihar, Gujarat, Tamil Nadu, Orissa and West Bengal.

6.59 The alternatives discussed assume that the users, irrespective of income status, are, above all, convinced of the need for sanitary facilities. In this context, the findings of a recent study, sponsored by UNICEF, on attitudes and practices are of interest:

The sanitation-health link is weak in people's minds. Some association is perceived between health and personal cleanliness; to a lesser extent between health and household cleanliness; almost none

between health and environmental hygiene maintaining hygiene is seen as a function of economic capacity, extending from person to household to environment as economic power increases: The practice of washing hands after defecation is universal, although 25 percent wash with water only. Some 14 percent use soap and water, 61 percent use water and mud or ash.

About 37 percent of respondents do not know or do not believe that exposed excreta is harmful for health. Of those who

do believe it to be harmful, only a fifth know how exposed excreta spread disease and what diseases are thus caused; Open defecation is not generally seen as a problem except in crowded villages and usually, by women.

The main motivation for using sanitary latrines is convenience, rather than health benefits. There is widespread confusion and ignorance among the rural population about how a sanitary latrine works, what happens to the contents of latrine pits and how often the pit needs cleaning.

Social environment

6.60 Violence and crime in society seem to be increasing and thanks to the media these are widely visible. Group violence, on account of various reasons keep occurring in some parts of India, at times for prolonged periods. There are signs that the root causes may not be intractable. Meanwhile, the effect on children could be negative and lasting. Children play with war-like toys. At another level, they are victims, psychologically (when not physically) of the cruelties of conflict, such as witnessing their parents being tortured or killed. Some of these young minds are numbed, some panic, others harden. If violence cannot be prevented altogether, children must at least be spared its trauma and treated for its effects – a psycho-social need which is beginning to be recognized.

6.61 The inter-relationship between child exploitation and dropping out of school was noted in Chapter 3. Child labour, including bonded labour, are not the only form of exploitation. Still prevalent in many rural regions, child marriage is a negation of childhood. Sexual abuse of children appears not uncommon, if periodic reports in the press are an indication. It continues to take place in an organized way in states like Karnataka and Andhra Pradesh with some kind of socio-religious sanction in the name of the Devadasi ('maid of god') system. There is a caste and class syndrome attached to this social practice which includes sexual exploitation and sale of children. A problem bigger in size exists, mainly in urban areas, of children of prostitutes facing life with a troubled mind and

social disabilities. The children of millions of leprosy patients are heir to social stigma of another kind. The problems on account of childhood disability and responses to them were noted in Chapter 2 and under Health Care in Chapter 7. In this field there is a growing consensus against segregation of disabled children at school or in vocations, and that the focus of attention, including preventive care for various levels of disability, must be the family. The dearth of facilities for their treatment and rehabilitation is an index of social apathy while the inadequacy of the preventive effort points to the need for greater social foresight and planning.

6.62 Exploitation of children takes place on other planes too: for example, commercial advertisements, political campaigns and for adult pastime sometimes in other countries. The number of 'street children', a category which is growing, is not precisely known, but is estimated at close to a million. According to one estimate, there are over 18 million destitute children, less than half of them orphans. A child whose parents are unable to discharge their responsibility on account of poverty, ill-health or lunacy; a child without parents or near relative or means of subsistence; a child forced into begging or hazardous occupation; a child whose parents indulge in prostitution, drunkenness or crime—these represent degrees of destitution, with varying economic, social and psychological consequences. On account of poverty, growing urbanisation and tendencies towards family disintegration, it is possible that the number of destitute children is increasing. Many of them eke out a living, on the street. Usually, they have a history of ill-treatment or neglect at home and are marginalised psychologically and socially, apart from their unmet needs of food and shelter. Many street children are law-abiding but the need for survival often lands them in the company of drug pushers, smugglers and other criminals. While corrective and preventive steps, largely on non-government initiative, are beginning to be felt, there are yet no signs of abatement of this phenomenon.

6.63 Central government programmes of support reach over 40,000 children through some 900 voluntary organizations. These

services cover only a small percentage of children in need. And the quality of support may not be the best possible. In terms of institutions as defined in the Children Act in force in several states, there are over 580 with a total capacity of some 58000 children. It is recognized that institutions, even those functioning under scientific conditions can provide but a poor substitute for family life. Alternative models of care and protection, which would approximate to it, should be possible through non-institutional programmes organized by voluntary initiatives of local communities, with professional and government assistance. Destitute children below 5 years of age obviously need closer attention than others. Services for them appear to be the weakest, probably because of the specialized inputs necessary for nutritional and health support. Preventive interventions to save children from destitution can effectively be made again at the community level; these are sorely needed but as yet rare.

6.64 In relation to orphans, the policy on child adoption is tightening to encourage in-country adoptions and to regulate inter-country movement keeping in view the best interests of the child. Among other areas of concern and action include addiction to drugs among the young and the poor and alcoholism across economic classes.

6.65 Juvenile addiction to tobacco, alcohol and drugs is being increasingly reported, beginning with the urban areas, including educational institutions. India is a major transit route for the world drug trade, the value of which is said to be next only to that in the global arms trade. The extent of prevalence of drug use or addiction in India is not known. Estimates of the number of regular users vary widely, from 700,000 upwards. There are however indications that the average age of users of psycho-active substances is decreasing, that the use of multiple drugs is increasing, that trafficking in drugs is abetted by powerful elements in society and that drug abuse is not confined to the better-off segments but is taking a hold on the poor working classes as well. It is clear that the increasing use of narcotics is a consequence, not just of trafficking by promoters, or a spirit of self-destruction or social protest by con-

sumers but also, at a deeper level, of unemployment, alienation, broken homes, dropping out of school and the inherent limitations of the urban setting.

6.66 The lessons of both negative and positive experience in relation to the child's social environment suggest that the social-

response to the problems of reducing poverty and disparities, containing violence, conserving nature, regulating urban growth, planning population, protecting and promoting child life and development should be easier, faster and more durable if they are tackled together, not separately.



Chapter 7

Structures and Services

Socio-economic structures

7.1 The process of planned 'development', initiated in India with the first five year plan beginning 1951, has had to contend with multiple challenges, reflected in a central issue: How to turn the diversity of the country into a means of strength rather than a source of disparity. Particular dimensions of disparity are noted elsewhere in this and the other chapters—including gender discrimination, the distance separating some castes and tribes from the rest, and the rural-urban rift. The focus of this section, is on the extent of economic inequalities—of income and assets—and the links between material poverty on one hand and various differentials on the other: socio-cultural, linguistic, ethnic, demographic, agroclimatic, regional. Experience clearly suggests that

economic and social problems, and therefore their solutions too, are intertwined.

7.2 *Caste cleavages:* Traditionally, the caste represented hereditary skills. But as all skills do not fetch equal status or reward, some castes came to be classified as superior and others as inferior. The higher weightage given to mental work as against manual work added to the inequality of status. There is, as a result, a close connection between caste affiliation and income level. With social change, however, there are examples of certain castes gaining higher status as a whole. In addition, with increased education and helped by the anonymity of the urban environment, caste distinctions are becoming less acute with

little relevance for daily social intercourse.

7.3 The scheduled castes account for 15-16 percent and the scheduled tribes 7-8 percent of the national population. The question of social equality is broader than the interests of the scheduled castes and scheduled tribes. Yet, their relative situation mirrors broader trends. On this, the report (1986-87) of the constitutionally appointed Commissioner for Scheduled Castes and Scheduled Tribes has some pointed observations. While the policy of positive discrimination has helped these segments, their gains are confined to the public sector which forms but a small segment of the economy. According to the report, the caste base of inequity in the national life is not only persisting but is getting accentuated. The tribal people are losing command over their resources on account of pressure from more advanced people, displacement by developmental projects and claims by the state. A recent survey of tribal villages in Madhya Pradesh showed a literacy rate of 5.6 percent, females 1.03 percent. (*National Centre for Human Settlements and Environment, Bhopal*). Atrocities on scheduled castes and scheduled tribes have acquired an economic dimension. The tribal sub-plan and special component plans for the scheduled castes (within the national five year plan) do provide substantial financial outlays but in the absence of a holistic frame and coordinated implementation, results have been less than expected. Skills of those engaged in agriculture and other traditional occupations continue to be under-valued. A common basis for determination of wages is yet to be established. Traditional vocations continue to be linked with their caste origins and go without the benefits of modern technology. Reservation of government posts for scheduled castes and tribes has continued since the beginning of the Constitution but the number of acceptable candidates has fallen short of the available positions, arguing the need for more vigorous steps for improving their access particularly to education.

7.4 *Income and assets:* A profile of the distributional imbalances – manmade or associated with differing endowments – can

be had from indices like average household assets (primarily land), per capita income, basic amenities in the neighbourhood, electricity in the home. As will be seen, there is a broad overlap between states that are relatively deprived in economic terms and those which lag behind in terms of social indicators including infant mortality and literacy. For example, in five of the most populous states which are also economically backward, 40 percent or more of the households have not even one literate member.

7.5 According to the National Sample Survey 37th Round (1982), the annual average rural household assets ranged between Rs.18,000 in Orissa to Rs.97,000 in Punjab. More than 60 percent of the value of rural assets in India is accounted for by agricultural lands, and the high average in states like Punjab and Haryana is explained by relatively large irrigated agricultural holdings. At the lower end, next to Orissa, came Tamil Nadu, Assam, West Bengal and Andhra Pradesh. In respect of urban household assets, the average value ranges between Rs.22,100 in Orissa and Rs.112,000 in Kerala where urban land prices are known to be upvalued mainly on account of remittances by people from the state working abroad. The per capita income (1986-87) at current prices varied between Bihar (Rs 1802) at one extreme and Punjab (Rs.4954) – not counting Delhi (Rs.6075) and Goa (Rs.5280) – which is more than two and a half times that of Bihar and more than double that in another eight states, namely Orissa, Madhya Pradesh, Uttar Pradesh, Rajasthan, Assam, Andhra Pradesh, Jammu and Kashmir, and Kerala.

7.6 In rural areas at the all India level, about 6 percent of the households have negligible assets, worth less than a thousand rupees. This proportion is as much as 14 percent in Tamil Nadu, 11 percent in West Bengal and 9 percent each in Orissa and Andhra Pradesh. There is significant inter-state variation in the distribution of households across various asset classes. While the major share of households in states like Andhra Pradesh, Assam, Bihar, Orissa, Tamil Nadu and West Bengal belong to the relatively lower asset classes, the majority of households in

states like Haryana, Himachal Pradesh, Jammu & Kashmir, Kerala and Punjab belong to the relatively higher classes. It is also seen that at the all India level the percentage of urban households with negligible assets, is about 15 percent, which is about two and a half times the percentage of such households in rural areas. This is to be expected as the poorest in the urban areas are mostly landless people in the slums. The share of such assetless urban households is as much as 26 percent in Orissa, 23 percent in West Bengal, 20 percent in Himachal Pradesh, 19 percent in Andhra Pradesh, and surprisingly as much as 12 percent in Punjab. The lowest shares of assetless urban households belong to Jammu & Kashmir (2 percent) and Haryana and Kerala (less than 5 percent). Interestingly Jammu and Kashmir and Kerala are the only two states where not less than 25 percent of the urban households have assets worth over Rs.100,000.

7.7 The distributional imbalances in respect of the main rural asset, namely, agricultural land holding, are pronounced, as revealed by the Agricultural Census, 1985-86. Three-fourths of the agricultural holdings are of size below two hectares; and only 2 percent can be considered large, over 10 hectares. The percentage of marginal holdings (<1 hectare) is high in Kerala (91 percent), Bihar (77 percent), Uttar Pradesh (72 percent), Tamil Nadu (71 percent) and West Bengal (70 percent). At the other extreme, Punjab, Rajasthan and Gujarat have more than half the holdings above 2 hectares each.

7.8 Agricultural holdings are rapidly becoming marginalized in several states. Apart from Arunachal Pradesh and Nagaland, Punjab is the only state where the share of marginal holdings is less than 25 percent. At the same time, the share of large holdings is negligible in most of the states, partly because land ceiling laws have been circumvented by fictitious transfer to other names. Rajasthan and Nagaland are the only states where the number of large holdings (more than 10 hectares) is more than 10 percent of the total number of holdings.

7.9 *Avenues for work:* Agriculture accounts for only about 32 percent of the

national income, while engaging 64 percent of the total labour force. This implies that the productivity of labour in agriculture is extremely low. Also the agricultural labour force suffers from acute under-employment and concealed unemployment. The average number of days of employment per worker may not exceed 100 days per year (one hectare land providing 60-80 days of employment under rain-fed farming; and 120-150 days of employment under irrigated farming). The principles of growth, efficiency and equity point to the urgent need for capital-saving, land-augmenting and labour-using technologies in agriculture. Even then, it is unlikely that crop production can provide full employment to the labour force in agriculture.

7.10 There is an obvious need to exploit the full potential for employment and income generation from livestock, poultry, fisheries and agro-processing. From the share of each of the 15 major states in this regard, it is seen that Gujarat, Haryana, Kerala, Punjab and Uttar Pradesh produce proportionally more milk than would be expected from their share of the country's total livestock. In contrast, Madhya Pradesh, Orissa, Rajasthan, and West Bengal have a share of milk production significantly lower than that of the livestock. Poultry production is better in Andhra Pradesh and West Bengal and less developed in Uttar Pradesh, Bihar, Gujarat, Madhya Pradesh and Rajasthan. The major fish producing states are Kerala, Maharashtra, Tamil Nadu and West Bengal, each of them with a long sea coast. The scope of inland fishing is not fully exploited in Assam, Bihar and Uttar Pradesh.

7.11 *Access to amenities:* Apart from income and assets, distributional imbalances are reflected in social sector services and infrastructural facilities across the states and the rural-urban divide. Only 26 percent of the households had electricity, as of 1981. The proportion varied between 61 percent in Jammu and Kashmir and Punjab to as little as 9 percent in Bihar. The more striking imbalance is that between rural and urban areas in the same state. Thus Bihar and Uttar Pradesh had hardly 4 percent of the rural households with electricity compared to 50-55 percent urban households.

According to the 1981 Census about 38 percent (27 percent rural and 75 percent urban) households had a supply of safe drinking water (from tap, handpump) at the all India level. Households in Punjab were the best served in this regard (82 percent in rural areas, 91 percent in urban areas); Kerala was the least served with only 12 percent of the total households having access to presumably safe drinking water.

7.12 An idea of the proportion of villages having basic amenities within a reasonable distance, can be had from Table 7.10. Here again, wide inter-state disparities are evident. The states fall into some three distinct groups, by the sensitive criterion of a bus stop within 2 kms, with Kerala, Tamil Nadu, Gujarat, Punjab and Haryana leading; and Orissa, Madhya Pradesh, Uttar Pradesh and Bihar bringing up the rear.

7.13 *Labour and employment:* Rewarding employment of a regular nature is widely recognized as a solvent of poverty. The present situation is fraught with serious imbalance between growth of the economy and of employment—calling into question issues of the product mix of what constitutes the national product, and the impact of technology on employment (as well as on other basic needs). To illustrate, during most of the 1970's, the economy grew at a subdued rate of around 3.5 percent, but employment registered an impressive rise of about 2.8 percent a year. The pattern in the 1980's was almost the reverse: the economic growth rate was higher around 5.3 percent but employment opportunities grew at about 1.5 percent, while the labour force increased by 2.5 percent a year. Some of the major aspects of the employment situation, including that of women, are reviewed here, keeping in view acknowledged problems of definition and estimation.

7.14 In India, "labour force" includes child labour and covers the age group 5-59 years. This apart, the definition of the International Labour Organization (ILO) extends to all persons engaged in the production of economic goods and services, irrespective of whether these are sold. For example, activities associated with the production and processing of food for domestic consumption and unpaid gathering of food,

fodder, fuel and water would be included. Adoption of this concept in India would not only result in a much larger size of the labour force than reckoned at present, but also reflect the presently unrecognized economic contribution by women to national income. Such a change involves a policy decision with a bearing on, among other aspects, the work of the Census of India, the National Sample Survey and the National Income Statistics.

7.15 The argument for redefinition is however more than statistical. The vulnerability of the woman worker has been noted in the earlier chapters in terms of the higher incidence of death, ill-health, malnutrition and illiteracy among them. In addition, the gender division of labour which prevails in many parts of the country prevents them from seeking work in or outside agriculture. These restrictions create an economic dependence on men (most of them with low incomes) which is reinforced by difficulties women face in inheriting property. Without land as collateral, women have also to go without institutional credit necessary for self-employment. Thus, a low economic value comes to be firmly attached to women.

7.16 The absence of an agreed concept of "labour force" leads to an unreal representation of the proportion of economically active population. And even within a narrow definition the changes from census to census in the concept of "the economically active", limit the usability of data. As an example, the participation rates for rural females 5 years and above, were 31 per cent in 1961, 16 per cent in 1971 and 24 per cent in 1981. Fluctuations of this order could hardly reflect the reality.

7.17 Based on labour force participation rates (National Sample Survey), the size of the labour force would be around 340 million as of 1989. Some 60-65 per cent of the labour force are in agriculture and the allied sectors, either as cultivators or as casual workers. The employment in the organized sector would be less than 10 per cent—the self-employed, the casual workers, the underemployed and the unemployed together making up the remaining 90 per cent and more. And within this sector, employment on public account is about two-and-a-half

times that in the private organized sector. Most of India's workforce is concentrated in agriculture, yet the largest contribution to its gross national product comes no longer from farm or factory but from the service sector including information-related services. This shift, as shown in the table below, is likely to persist.

TABLE 7.1 Structural changes.

| | Work force (percent) | National product (percent) |
|-------------------------|-------------------------|----------------------------------|
| Agriculture | 64 | 32 |
| Industry | 15 | 26 |
| Service/ Information | 21 | 42 |

7.18 In the organized sector, the growth of employment has been subdued, from 20.6 mn in 1977 to 25.4 mn in 1987, much

of it in the public sector. This sector absorbs educated/skilled labour and provides only a small share to women. See Table 7.2.

7.19 In agriculture, which is the main source of employment, the relative contribution to employment (as well as to the national income) has been falling — from 68 percent in 1977 to 64 percent in 1983. The reduction in size of land holdings and in labour absorption per hectare in some regions add to this trend, to the disadvantage of rural labour. The case for imaginative and extensive rural employment programmes to help the transition of workers to non-agricultural occupations is strong. An idea of the extent of unemployment, according to the National Sample Survey (38th round), is provided in Table 7.3.

7.20 According to recent official estimates, based on National Sample Survey data, the number of people classified as 'unemployed' is about 13.5 million, some 50

TABLE 7.2

Distribution of employment of women in the organized sector, by state

| State December 1988 | Women as percentage of total employees | | |
|------------------------|--|----------------|-------|
| | Public Sector | Private Sector | Total |
| Andhra Pradesh | 10.2 | 20.2 | 12.3 |
| Assam | 11.2 | 45.3 | 29.1 |
| Bihar | 6.8 | 6.4 | 6.7 |
| Gujarat | 14.3 | 9.2 | 12.1 |
| Haryana | 14.4 | 8.2 | 11.6 |
| Karnataka | 14.6 | 19.2 | 16.0 |
| Kerala | 28.0 | 44.3 | 35.4 |
| Madhya Pradesh | 9.5 | 10.4 | 9.6 |
| Maharashtra | 13.0 | 12.0 | 12.6 |
| Orissa | 7.4 | 11.8 | 7.9 |
| Punjab | 14.6 | 9.7 | 13.2 |
| Rajasthan | 9.6 | 18.3 | 11.2 |
| Tamil Nadu | 19.0 | 24.2 | 20.6 |
| Uttar Pradesh | 7.2 | 8.4 | 7.4 |
| West Bengal | 7.1 | 14.7 | 9.9 |
| All India | 11.7 | 18.0 | 13.5 |

Source : Directorate of Employment and Training, Ministry of Labour.

Note: Organised sector includes all establishments in the public sector irrespective of size of employment and those non-agricultural establishments in the private sector employing 10 or more persons.

TABLE 7.3

Distribution of youth labour force (15-29 years) and unemployment, by education level.

| Education level | Percentage share in | | Rate of |
|---------------------|---------------------|--------------|--------------|
| | Labour force | unemployment | unemployment |
| Illiterate | 48.9 | 25.0 | 3.97 |
| Primary and middle | 39.6 | 41.8 | 8.17 |
| Secondary | 8.8 | 23.8 | 21.05 |
| Graduates and above | 2.7 | 9.4 | 26.97 |
| Total | 100.0 | 100.0 | 7.75 |

Source : National Sample Survey 38th Round.

percent of whom are "educated unemployed", including about 1.5 million graduates.

7.21 Trends in real wages are relevant to this context. Mechanisms to compensate for price inflation are confined to the organized sector. Wage levels differ widely between the organized and unorganized sectors. See Table 7.4. Roughly 43 percent of the total labour force is wage labour and about 80 percent of the wage labour is in the unorganized sector and is expected to be protected by the statutory 'minimum wages' fixed in each state under the Minimum Wages Act of 1948. In practice, this has proved to be a weak area of trade union functioning and labour administration. By and large, agricultural labour does not receive the minimum wage except during the sowing and harvesting seasons. What is more, despite the laws on equal remuneration as well as the constitutional right to equality, women are paid less than men, for the same work. In the case of child

labour, in agriculture for example, wages vary from place to place, as a proportion (usually half the adult minimum wage) but the working hours are seldom limited to 5 hours (prior to the Child Labour Act of 1986, the duration was limited to four and a half hours).

7.22 Among the more exploited workers are the seasonal and migrant labour. Punjab illustrates the situation, though not exclusively. With the highest percentage (82) of area under cultivation and the highest crop intensity (153) in the country, Punjab has had a rapidly rising demand for labour. This is met for specific work duration by migrant labour from flood-prone north Bihar and eastern Uttar Pradesh. They live in appalling conditions with hardly any bargaining power or effective protection from the Inter-state Migrant Workmen's Act or the Minimum Wages Act. The concept of 'minimum wage' applies outside the government sector (where wages are periodically revised in keeping with the cost

TABLE 7.4

Minimum wages in organized/unorganized sectors

| Year (as on 1 January) | Consumer Price Index | (in rupees) Minimum wages in organised Sector | Minimum wages in unorganized Sector |
|------------------------------|----------------------------|--|---|
| 1988 | 756 | 1542 | 328 |
| 1989 | 816 | 1641 | 354 |
| 1990 | 882 | 1750 | 382 |

Source : National Labour Institute

TABLE 7.5

Calorie norms as recommended by ICMR, 1989

| Age/sex/activity group | Average calorie norm (per capita daily) |
|------------------------|--|
| 0 - 6 m | 118 kg |
| 6 -12 m | 108 kg |
| 1 - 3 | 1125 |
| 4 - 6 | 1600 |
| 7 - 9 | 1925 |
| 10 - 12 - Boy | 2150 |
| 10 - 12 - Girl | 1950 |
| 13 - 15 - Boy | 2400 |
| 13 - 15 - Girl | 2050 |
| Male | |
| Heavy worker | 3200 |
| Moderate worker | 2700 |
| Sedentary worker | 2350 |
| Female | |
| Heavy worker | 2450 |
| Moderate worker | 2100 |
| Sedentary worker | 1800 |

TABLE 7.6

Calorie inadequacy among adult males and females (percent of population)

| | 1975-1979 | | 1979 | | 1980 | |
|----------------|-----------|---------|-------|---------|-------|---------|
| | Males | Females | Males | Females | Males | Females |
| Kerala | 60.8 | 50.9 | 60.6 | 54.6 | 61.8 | 58.5 |
| Madhya Pradesh | 48.4 | 28.8 | 63.3 | 55.0 | - | - |
| West Bengal | 45.7 | 38.4 | 53.1 | 54.6 | 35.3 | 30.4 |
| Orissa | 42.6 | 24.0 | 39.6 | 22.1 | 39.3 | 20.3 |
| Maharashtra | 40.3 | 27.9 | 44.0 | 36.9 | - | - |
| Uttar Pradesh | 36.7 | 32.2 | 28.8 | 29.5 | 38.4 | 25.8 |
| Andhra Pradesh | 35.6 | 18.5 | 22.9 | 7.7 | 35.1 | 24.1 |
| Gujarat | 35.2 | 27.3 | 24.2 | 17.2 | 29.3 | 20.9 |
| Tamil Nadu | 34.8 | 25.4 | 15.7 | 16.7 | 41.4 | 36.1 |
| Karnataka | 18.8 | 10.4 | 19.8 | 7.9 | 11.0 | 10.3 |

Source : NNMB (Nutrition Foundation of India — Special Publications Series 3)

of living) and the corporate private sector (where wage agreements are reached every few years through collective bargaining). However, in the bulk of private sector industry, employment is at the minimum wage level, linked to the consumer price index and periodically notified by the state governments. Under this system, real wages

tend to get eroded in the second half of the wage period.

7.23 The largest number of wage labour is in agriculture which has at least 80 million main and marginal workers. Under the Minimum Wages Act, the state governments fix minimum wages for these workers at inter-

vals of not less than 5 years, again linked to the consumer price index. Apart from the effect of inflation on the real wage, enforcement of the "minimum wage" becomes problematic in many cases, given the unorganized condition of labour and the weaknesses in the administrative machinery.

7.24 There is a flow of seasonal migrant labour from Uttar Pradesh and Rajasthan, belonging mainly to the scheduled castes, brick kilns scattered over the east, north, west and central parts of the country. Thousands of tribal workers move to south Gujarat for the cane harvesting season from adjoining Maharashtra. Socially and economically, seasonal and migrant labour represent perhaps the weakest segment of the community. Alongside bonded labour, touched upon in relation to children in Chapter 5, these categories have lately figured as subjects of public interest litigation (briefly discussed later in this chapter).

7.25 *Extent of poverty:* Two broad inferences emerge from the preceding discussion: Socio-economic structures including caste and gender segregation on one hand, and poverty in its varied material and non-material forms on the other, breed each other; second, equal opportunities to all, even when ensured, may not be sufficient to eliminate poverty in a system loaded against the poor in terms of distribution of incomes and assets. In this section, the extent of poverty is reviewed. The experience in reducing it is discussed next.

7.26 Conceptually, there are at least two approaches to assessing poverty. As a relative measure of deprivation, certain minimum needs can be recognized in terms of the average expectation, changing from time to time, of a population group. Or, poverty could be defined mainly with reference to physiological needs of the human body, which depends mainly upon qualitative and quantitative characteristics of food consumed at individual and household levels. In India, attention is being focused usually on the minimum norm of calories consumed. Consideration for other basic needs like clothing and shelter is given to the extent a household, satisfying the minimum calorie requirement, would actually be observed to be consuming. Thus, a summary index of poverty is derived by drawing

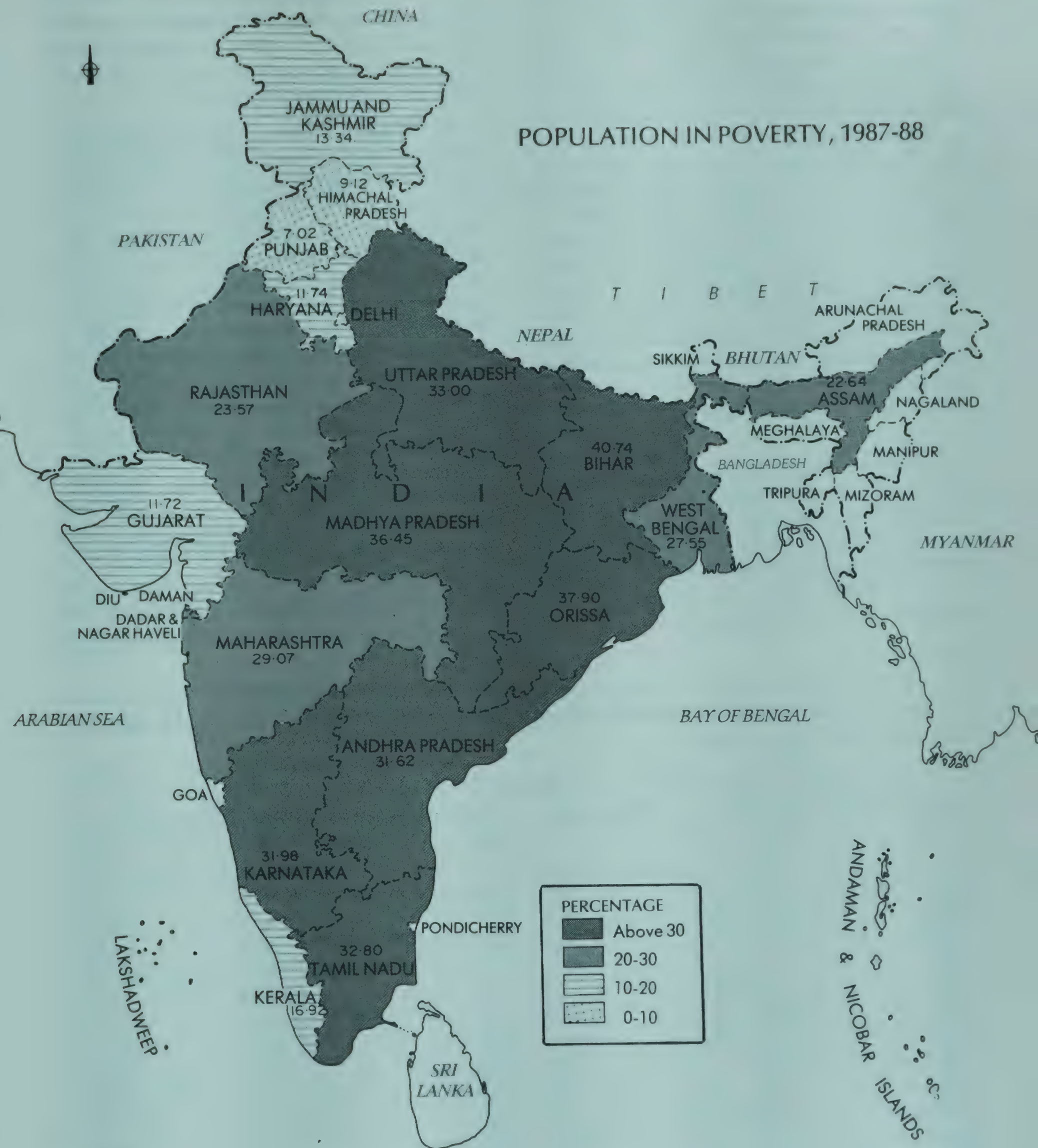
a line between the poor and the non-poor through the mid-point of the monthly per capita expenditure class having a daily calorie intake of 2400 per person in rural areas and 2100 in urban areas. These, in turn, were derived from calorie norms, set by the Indian Council of Medical Research, and are variable according to age, activity and, arguably, gender. See Table 7.5.

7.27 *Calorie inadequacy:* Calorie inadequacy is generally seen in 35 percent to 45 percent of adult males, with the exceptions of Kerala where it is more than 50 percent and Karnataka where it is less than 20 percent. In adult females, rather differently, calorie inadequacy is not seen in more than 35 percent, again barring Kerala where the figure is higher. The NNMB data (not presented here) also suggest that even in the pre-school age group, where the incidence of severe protein-energy malnutrition is higher among girls, calorie intake is not comparatively lower in girls.

7.28 The incidence of poverty thus depends on the level of consumption and the manner in which it varies among the different expenditure classes of the population. This information is periodically obtained by the National Sample Surveys of consumer expenditure. Estimates of per capita private consumption expenditure, taking into account changes in the price level, are also available in the National Accounts statistics provided by the Central Statistical Organization. The updated poverty line at 1986-87 prices was Rs.123.32 for rural areas and Rs.142.34 for urban areas (compared with Rs.49.09 and 56.64 at 1973-74 prices).

7.29 After adjusting the National Sample Survey findings with the National Accounts statistics, the official estimates of incidence of poverty are adopted by the Planning Commission as below :

| Percentage of persons below poverty line | | | |
|--|---------|---------|---------|
| | 1977-78 | 1983-84 | 1987-88 |
| Rural | 51.2 | 40.4 | 32.7 |
| Urban | 38.2 | 28.1 | 19.5 |
| Total | 48.3 | 37.4 | 29.2 |



The publication of this map does not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its delineation of its frontiers or boundaries.

Source: NS Survey

7.30 There are indications that the proportion of urban citizens below poverty line has fallen significantly, more in the south and the west, though the absolute number of the urban poor has been growing. The reduction in the proportion living below poverty line in rural areas appear to have fallen but to a lesser extent than in urban areas, but here too the absolute number seems to have increased. It would appear that the regional concentration of poverty has increased in the eastern and central regions. It is possible that the total number of poor, which was officially estimated at 307 million in 1977-78 is around 322 million in 1988, around 22 percent of them in urban areas. These estimates await official confirmation and have a bearing on the 8th five year plan presently under preparation.

7.31 The following Tables 7.7 and 7.8 indicate distribution of population by expenditure class in rural and urban areas. Table 7.9 shows the number and proportion of population below the poverty line, by state. In rural India about 50 percent of the households accounting for 57 percent of

the rural population spent less than Rs.140/- per month per person. On the other hand in Urban India about 50 percent of households accounting for nearly 58 percent of Urban population spent a maximum of Rs.215/- per month per person.

7.32 The proportion of the rural poor varies widely between 10.9 percent in Punjab to 51.4 percent in Bihar, as of 1983-84. The share of the six states – Bihar, Madhya Pradesh, Orissa, Uttar Pradesh, West Bengal and Assam – comes to 52 percent of the rural population but 60 percent of the rural poor. This, despite the land being fertile. While these states account for 50 percent of the area under foodgrains and 51 percent of production in the country, they lag far behind the other states in farm inputs like irrigation, fertilizer and cooperative credit. The semi-feudal landholding system (under which absentee landlords keep peasants and landless labour in perpetual debt and conditions of near-bondage) adds to the problem of low productivity especially in rice cultivation. As noted earlier, the average number of days of employment per agricultural worker (who form about two-

TABLE 7.7

Percentage distribution of households and population by monthly per capita expenditure class 1987-88 – India.

| Rural | | | Urban | | |
|-----------------|--------------|--------------|-----------------|--------------|--------------|
| MPCE class (Rs) | households % | Population % | MPCE class (Rs) | households % | Population % |
| Less than 65 | 5.6 | 6.2 | Less than 90 | 5.5 | 7.1 |
| 65-80 | 6.3 | 7.1 | 90-110 | 5.6 | 7.2 |
| 80-95 | 9.0 | 10.1 | 110-135 | 9.5 | 11.8 |
| 95-110 | 11.1 | 12.1 | 135-160 | 10.2 | 11.8 |
| 110-125 | 10.8 | 11.3 | 160-185 | 9.1 | 10.3 |
| 125-140 | 9.5 | 9.7 | 185-215 | 9.4 | 10.1 |
| 140-160 | 10.3 | 10.2 | 215-255 | 10.4 | 10.5 |
| 160-180 | 7.8 | 7.5 | 255-310 | 10.0 | 9.2 |
| 180-215 | 9.6 | 8.9 | 310-385 | 9.7 | 7.9 |
| 215-280 | 9.1 | 8.1 | 385-520 | 9.7 | 6.9 |
| 280-370 | 5.3 | 4.3 | 520-700 | 5.3 | 3.4 |
| 370 & above | 4.8 | 3.6 | 700 & above | 4.6 | 3.0 |
| not reported | 0.9 | 0.8 | not reported | 0.9 | 0.8 |
| All | | 100.0 | All | | 100.0 |

Source : National Sample Survey

TABLE 7.8

Percentage distribution of estimated number of persons by monthly per capita expenditure class.

| Monthly per capita expenditure class in rupees | Number of Sample Households | Percentage of persons | Urban Per Capita consumption (Monthly) (Rs) |
|--|-----------------------------|-----------------------|---|
| 0- 30 | 92 | 0.21 | 21.92 |
| 30- 40 | 164 | 0.51 | 35.81 |
| 40- 50 | 409 | 1.40 | 45.70 |
| 50- 60 | 932 | 2.93 | 55.54 |
| 60- 70 | 1424 | 4.92 | 65.25 |
| 70- 85 | 3037 | 9.52 | 77.41 |
| 85-100 | 3604 | 10.64 | 12.53 |
| 100-125 | 6178 | 17.17 | 112.00 |
| 125-150 | 5316 | 13.13 | 137.19 |
| 150-200 | 7441 | 16.31 | 171.96 |
| 200-250 | 4430 | 8.75 | 222.64 |
| 250-300 | 2843 | 5.19 | 273.08 |
| 300 & above | 6113 | 9.32 | 452.05 |
| All expenditure class | 41983 | 100.00 | 164.73 |

Source : National Sample Survey, 38th round, 1983.

TABLE 7.9

Number and percentage of population below the poverty line, by state 1983-84 and 1987-88.

| States | Rural | | | | Total | | | |
|-----------------------|-------------|------|-------------|------|---------|------|---------|------|
| | 1983-84 | | 1987-88 | | 1983-84 | | 1987-88 | |
| | Number (mn) | % | Number (mn) | % | Number | % | Number | % |
| Andhra Pradesh | 16.44 | 38.7 | 15.26 | 33.7 | 20.51 | 36.4 | 19.51 | 31.6 |
| Assam | 4.49 | 23.8 | 5.00 | 24.4 | 4.98 | 23.5 | 5.25 | 22.6 |
| Bihar | 32.94 | 51.4 | 29.98 | 42.6 | 36.55 | 49.5 | 33.58 | 40.7 |
| Gujarat | 6.77 | 27.6 | 2.96 | 11.2 | 8.76 | 24.3 | 4.66 | 11.7 |
| Haryana | 1.62 | 15.2 | 1.35 | 11.7 | 2.17 | 15.6 | 1.88 | 11.7 |
| Himachal Pradesh | 0.58 | 14.0 | 0.45 | 9.7 | 0.6 | 13.5 | 0.45 | 9.1 |
| Jammu & Kashmir | 0.81 | 16.4 | 0.94 | 15.4 | 1.03 | 16.3 | 0.94 | 13.3 |
| Karnataka | 10.29 | 37.5 | 10.27 | 35.9 | 13.76 | 35.0 | 13.61 | 32.0 |
| Kerala | 5.59 | 26.1 | 3.72 | 16.4 | 7.15 | 26.8 | 4.87 | 16.9 |
| Madhya Pradesh | 21.80 | 50.3 | 19.35 | 41.4 | 25.49 | 46.2 | 22.33 | 36.5 |
| Maharashtra | 17.61 | 41.5 | 16.61 | 36.5 | 23.20 | 34.9 | 21.33 | 29.1 |
| Manipur | 0.13 | 11.7 | - | - | 0.19 | 12.3 | - | - |
| Meghalaya | 0.39 | 33.7 | - | - | 0.40 | 28.0 | - | - |
| Orissa | 10.77 | 44.8 | 10.36 | 40.4 | 11.81 | 42.8 | 11.45 | 37.9 |
| Punjab | 1.37 | 10.9 | 0.96 | 7.2 | 2.44 | 13.8 | 1.36 | 7.0 |
| Rajasthan | 10.50 | 36.6 | 7.74 | 24.9 | 12.62 | 34.3 | 9.62 | 23.6 |
| Tamil Nadu | 14.76 | 44.1 | 13.84 | 39.5 | 20.02 | 39.6 | 17.68 | 32.8 |
| Tripura | 0.46 | 23.5 | - | - | 0.51 | 23.0 | - | - |
| Uttar Pradesh | 44.00 | 46.5 | 34.71 | 34.6 | 53.06 | 45.3 | 42.20 | 33.0 |
| West Bengal | 18.39 | 43.8 | 13.72 | 30.3 | 22.51 | 39.2 | 17.33 | 27.6 |
| Territories All India | 221.50 | 40.4 | 191.82 | 32.7 | 271.00 | 37.4 | 232.40 | 29.2 |

Source : National Sample Survey

thirds of the labour force) may not exceed 100 days in a year. Poverty in these states is more chronic than in the other states where it is relatively transitory being associated mainly with monsoon failures.

7.33 *Programmes for the Poor:* From the early 1970's, it was recognized that economic growth alone will not suffice to solve the problem of poverty. There was need to enable the poor to earn enough income to meet their basic requirements; and they also have to be provided with a certain minimum of social infrastructural facilities. Among such schemes were assistance to small farmers, marginal farmers, agricultural labourers, special development programmes for drought-prone, desert and hill areas and development support to scheduled castes and scheduled tribes. A national level food-for-work programme was introduced in 1977. An Integrated Rural Development Programme (IRDP) was initiated the next year and extended to the whole country in 1980. Meanwhile, a Minimum Needs Programme was introduced in the 1970's with eight components: elementary education, rural health, rural water supply, rural roads, rural electrification, rural housing, environmental improvement of urban slums and nutrition. To these were added adult education in the sixth plan and rural domestic energy, rural sanitation and public distribution mainly of foodgrains, during the seventh plan. Another programme specifically for the landless was introduced in 1983, Rural Landless Employment Guarantee Programme (RLEGP). Various state governments initiated their own specific schemes, for example, the employment guarantee scheme in Maharashtra since 1972, the school meal scheme in Tamil Nadu and modest, ad hoc social security measures in some other states. Side by side, structural and institutional changes including land reform, revamping of panchayati raj institutions, rehabilitation of bonded labour, implementation of minimum wages, provision of concessional credit to the poor, involvement of voluntary organizations in development and conscientisation of the poor, organized into groups, were also attempted. In addition, sectoral programmes including agriculture, animal husbandry, fisheries, irrigation and rural industries have special

dimensions for the exclusive benefit of disadvantaged groups.

7.34 Over 30 million poor families have been assisted under IRDP, to acquire a productive asset (average value Rs.5000) in order to be self-employed. The initial concept of IRDP as a development plan for each block was given up to hasten the pace of extending the programme to all the 5000 odd blocks in the country. Evaluations have revealed weaknesses in implementation, some of which have since been corrected. Among the major critiques of the IRDP are the following: the non-poor were assisted; assets were over-priced; gratification was taken from the poor by the officials; assets were defective and hence did not generate income; even when assets were productive, they were not adequate to enable the poor to cross the poverty line. A continuing major deficiency is that the programme is more oriented towards physical targets than to quality and durable result.

7.35 The combined employment channelled under the rural programmes works out at about 700 mn man days per year. However, this is inadequate compared to the need of providing, say, 100 days of work for at least one member of about 45 mn poor rural families in the country. An effort was made in 1989 to combine and enhance the different programmes, with the bulk of the funds placed at the disposal of village panchayats for appropriate schemes in a decentralized mode. This scheme is being reshaped under the 8th plan. An idea of the performance of the "Minimum Needs Programme" in terms of basic education and health facilities, water supply and nutrition and public distribution system is provided elsewhere in this chapter and Chapter 6.

7.36 The weaknesses of the anti-poverty programmes have been highlighted on two broad counts. First, an impression exists that such programmes will take care of the poor. Therefore, the poor tend to be excluded from the benefits of the general development programmes—such as subsidised inputs and credit for production distributed necessarily in proportion to existing assets and incomes. Second, anti-poverty programmes have not yet been

able to involve an awakened community in their management and therefore become at best service delivered through impersonal bureaucratic channels and at worst, distorted by caste and class affiliations at the lower tiers of administration and allied developmental institutions.

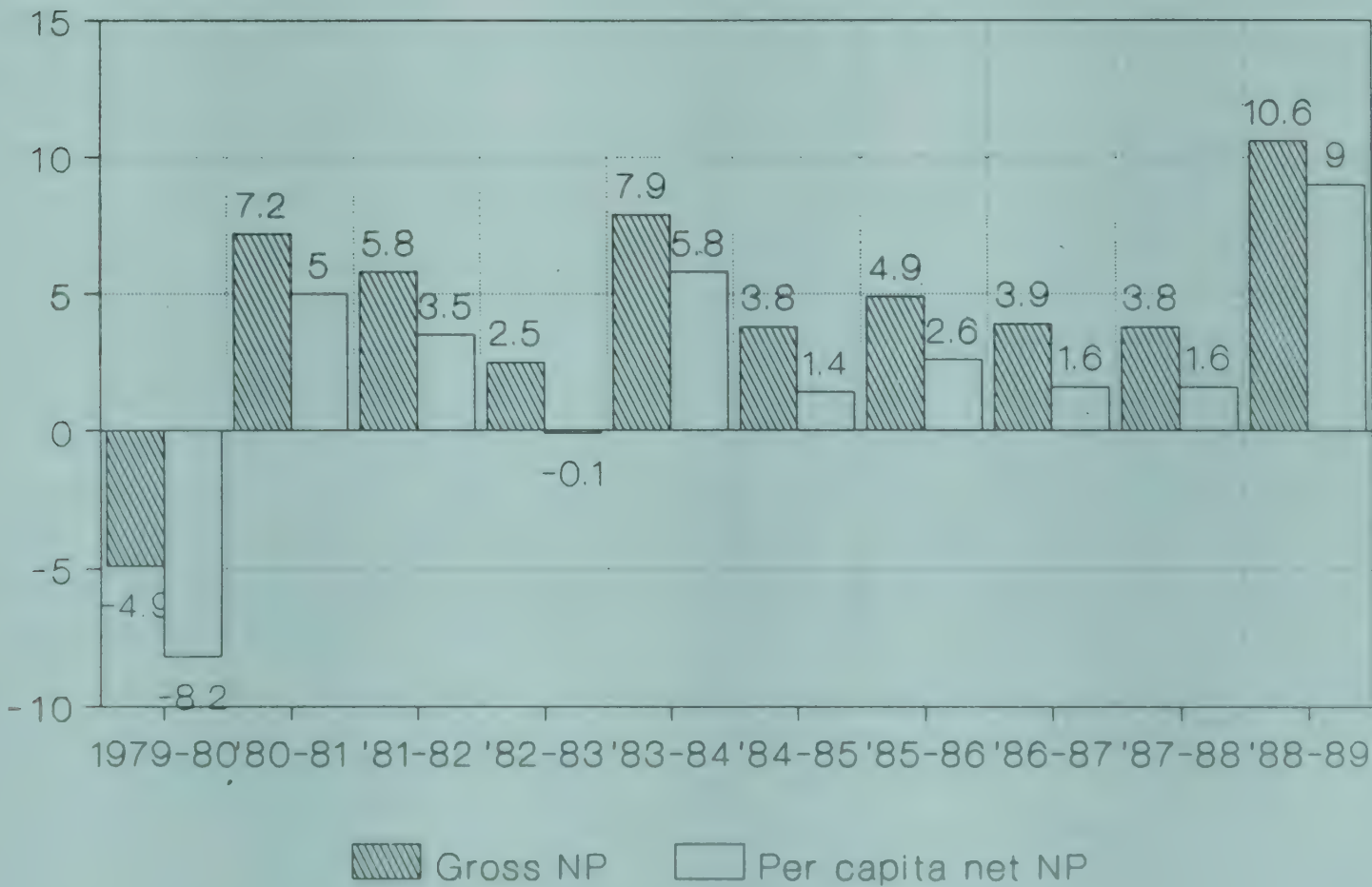
7.37 *The Economy:* Economic Growth with social equity has been the guiding principle of economic management in India. However, integrating the two in a single unified planned process has so far not been easy. The duality of the economy has tended to continue, in terms of mainstream development on one hand and special programmes for the poor on the other. While the overall growth potential of the economy is considered good, India remains one of the poorest countries with a per capita income of around US \$300, an average which masks wide income disparities. The real incomes of over two-thirds of the people have remained virtually stagnant while those of the other third have more than doubled, these past four decades.

7.38 During the 1980's, the annual growth rate at constant (1980-81) prices averaged around 5 percent, as Diagram 7.2.

7.39 The areas of strength in the economy have been identified as resilience in the face of adverse weather, buoyancy in the climate for industrial investment as a result of liberalisation, rapid growth of exports particularly in recent years and improvement in some areas of infrastructure such as power generation and transportation.

7.40 Among the less positive aspects of the economy are the following: The high rate of growth recorded in 1988-89 (after the decline in the previous two drought years) may not be maintained in 1989-90. While the growth in gross agricultural production averaged about 5 percent during the 1980's, the value added increased only at around 2 percent a year, pointing to continuing problems of low productivity, regional imbalance and stagnation or decline in per capita agricultural income in some of the populous states. The pattern of industrial production has shown

DIAGRAM 7.2
Annual growth rate at constant (1980-81) prices
average around 5 percent



Source : Government of India, Economic Survey 1989-90

TABLE 7.10

Percentage of villages having basic amenities within specified distance - by state

| State | Railway station within 5 kms | Bus stop within 2 kms | Post Office within 2 kms | Primary school within 2 kms | Dispensary within 2 kms | Health Centre within 2 kms |
|------------------|------------------------------|-----------------------|--------------------------|-----------------------------|-------------------------|----------------------------|
| Andhra Pradesh | 14.9 | 48.9 | 60.8 | 90.0 | 24.1 | 7.2 |
| Assam | 27.6 | 47.7 | 50.9 | 93.7 | 25.9 | 15.3 |
| Bihar | 23.0 | 34.3 | 57.2 | 92.0 | 25.3 | 31.0 |
| Gujarat | 27.5 | 71.2 | 63.4 | 95.7 | 27.0 | 7.5 |
| Haryana | 25.6 | 67.3 | 66.4 | 98.9 | 34.2 | 17.0 |
| Himachal Pradesh | 6.4 | 45.6 | 52.5 | 83.7 | 27.1 | 6.7 |
| Jammu & Kashmir | 4.2 | 48.0 | 47.2 | 90.3 | 40.3 | 15.3 |
| Karnataka | 13.9 | 59.2 | 64.1 | 94.9 | 26.2 | 10.5 |
| Kerala | 23.0 | 98.0 | 99.7 | 99.7 | 90.6 | 46.7 |
| Madhya Pradesh | 9.7 | 26.7 | 30.1 | 85.8 | 15.0 | 5.6 |
| Maharashtra | 12.8 | 46.4 | 46.2 | 93.2 | 22.3 | 7.7 |
| Orissa | 8.7 | 26.5 | 50.7 | 88.3 | 13.9 | 7.8 |
| Punjab | 33.2 | 70.5 | 64.5 | 99.0 | 41.4 | 18.6 |
| Rajasthan | 13.6 | 41.3 | 46.3 | 81.3 | 23.8 | 5.6 |
| Tamil Nadu | 22.4 | 72.3 | 75.9 | 95.1 | 24.2 | 7.9 |
| Uttar Pradesh | 25.4 | 31.3 | 57.8 | 90.8 | 24.5 | 10.7 |
| West Bengal | 25.6 | 44.8 | 64.7 | 96.6 | 41.7 | 17.4 |
| India | 18.3 | 40.3 | 53.2 | 90.1 | 24.6 | 12.0 |

Source : Central Statistical Organization: Economic Census — 1980

a significantly faster growth in consumer durable goods (meant for those with relatively better purchasing power), than in intermediate goods and consumer non-durables, reflecting disparities in production with implications for employment and equity. Growing budget deficits (which have more than doubled the limit of Rs.140 billion set for the 7th plan period), and high levels of liquidity (growth in money supply averaging 17 percent a year through the 1980's), have fuelled inflation (in the range of 5-10 percent annually through the decade) and diminished the internal value of the rupee (11 paise in 1990 with 1960 as base year). The existence of a parallel economy is another source of inflation and the extent of unaccounted money (excluding that generated each year by smuggling) has been estimated at anywhere between Rs.400 bn and Rs.800 bn (compared with the 1988-89 GNP Rs.34630 bn). As is known inflation hurts the poor more than the non-poor (whose assets are upvalued in the process).

7.41 The fiscal imbalance has been compounded by several factors: budget deficits have had to be met by borrowings and the debt of the Central Government has so increased (the internal debt is around Rs.2000 billion), as to raise the net interest burden (interest paid less interest received) in the central budget from 3.6 percent of the total expenditure in 1980-81 to 10.1 percent in 1989-90. The government has been relying on borrowing not only for capital expenditure but also to meet revenue deficit (which increased from Rs.3020 mn in 1981-82 to Rs.147,360 mn in 1989-90). The yield of investments in the central public enterprises has remained meagre: pre-tax profit of around 6 percent on a capital outlay of Rs.710 billion. The expenditure on defence has risen to 3.8 percent of the gross domestic product in 1988-89 from 2.9 percent in 1980-81. The bill in subsidies (mainly on food, fertilizer and export promotion) has increased during this period from 1.4 percent to 2.0 percent of GDP. There are other scattered elements of

TABLE 7.11

Expenditure on social services under the five-year plans

| (rupees in millions at current prices) | | | | | | | |
|--|---------------|---------------|---------------|----------------|---------------|---------------|----------------|
| | 1951-56 | 1956-61 | 1961-66 | 1969-74 | 1974-79 | 1980-85 | 1985-90 |
| Public Sector | | | | | | | |
| Plan Outlay | 19600* | 46720* | 85770* | 157240* | 94260* | 975000 | 1800000 |
| Social | 4180 | 7440 | 12960 | 24620 | 63720 | 140350 | 315450 |
| Services | (21) | (15.6) | (15.1) | (15.6) | (16.1) | (14) | (17.5) |
| Education | 1530 | 2730 | 5890 | 7860 | 13360 | 25240 | 63820 |
| | (7.5) | (5.5) | (6.9) | (5.0) | (3.3) | (2.6) | (3.5) |
| Health | 980 | 2140 | 2260 | 3370 | 7610 | 18210 | 33920 |
| | (5.0) | (4.6) | (2.6) | (2.1) | (1.9) | (1.8) | (1.9) |
| Family Planning | - | 20 | 250 | 2780 | 4920 | 10100 | 32560 |
| | | | (0.3) | (1.7) | (1.2) | (1) | (1.8) |
| Housing and | 330 | 800 | 1280 | 2470 | 11500 | 24880 | 42290 |
| Urban Services | (1.7) | (1.7) | (1.5) | (1.6) | (2.9) | (2.5) | (2.4) |
| Water Supply | - | - | 1060 | 4740 | 10920 | 39220 | 65220 |
| & Sanitation | | | (1.2) | (3.0) | (2.7) | (4) | (3.6) |
| Social Welfare | 1340 | 1750 | 2220 | 3400 | 15410 | 22700 | 77610 |
| Related Fields | (6.7) | (3.7) | (2.5) | (2.1) | (3.9) | (2.3) | (5.0) |
| <i>Note: Figures in brackets are percentages to total plan outlay.</i> | | | | | | | |
| <i>* Actuals</i> | | | | | | | |

Source : Planning Commission

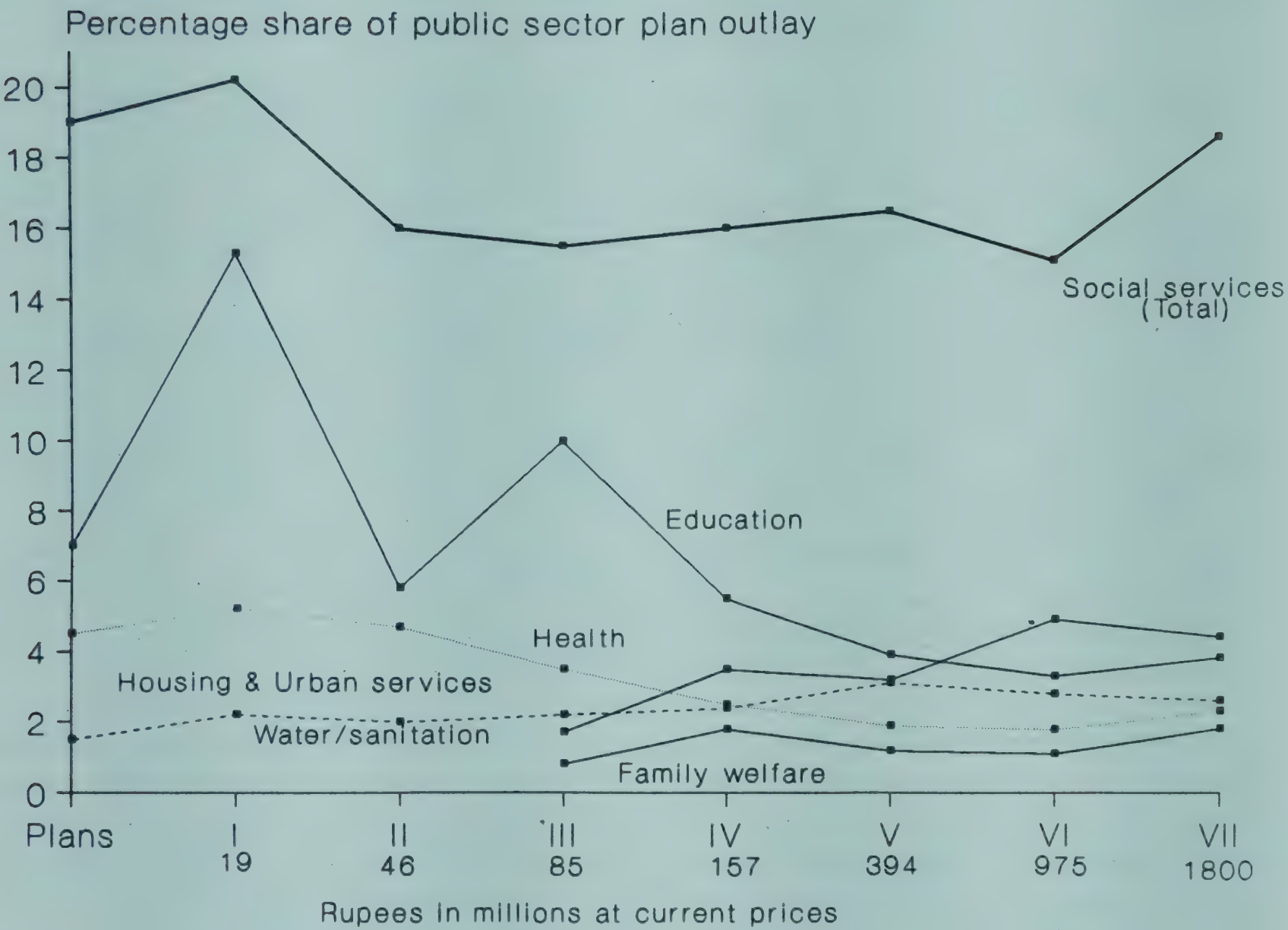
direct and indirect subsidy (irrigation and electricity rates, higher education costs, interest rates extended to those who have hardly a claim). So too the wage and salary bill of the government has risen over this period from 1.8 percent to 2.2 percent of GDP. All these have eroded the capacity to finance plan expenditure and turned the balance from current revenues available for financing plan and capital expenditure into an increasing negative figure.

7.42 While a moderate rate of inflation and high private savings rate have been strong points of the economy, during the 1980's resource problems have arisen in the public sector, leading sequentially to large budget deficits, less than adequate savings, increased public debts, reduced private investment, greater dependence on foreign borrowings and ultimately higher inflation.

7.43 In the external sector, the situation has been under pressure for some time, despite a rising trend in exports and a welcome slowing down of the earlier faster rate of growth of imports. Negative balance of payments in recent years has led to a drawing down of foreign exchange reserves and increase in external borrowings—nearing Rs.1000 bn in early 1990—over a sixth of which are deposits by non-resident Indians. This means that about 30 percent of the export earnings are being spent on external interest payments (debt service ratio).

7.44 Given this situation, investment constraints for developmental activities continue to operate especially in the social sector. A picture of relative priorities, reflected in financial terms, is provided by Table 7.11. Such investments have gone so far mainly to the build up of service in-

Social sector plan outlay, 1951-90



frastructure as outlined in subsequent sections.

7.45 Investments, capital and recurring, in the social services take place both in the government and non-government sectors. The data in Table 7.11 relate to financial outlays under the five-year plans for various clusters of services which are, or ought to be, of direct relevance to the disadvantaged segments of the population. The amounts are at current prices. Given the price inflation from year to year, real values will be less; more so in per capita terms, in view of the steady increase in population. As a percentage of the total plan outlay, the shares of education and health are significantly lower in the 7th Plan than in the 1st Plan. As discussed elsewhere in this Chapter, even within the education and health sectors, the allocation for elementary education and primary health care have declined relative to higher education and curative care.

Political-Administrative System

7.46 A federation of 25 States and seven Union Territories, the Republic of India has strong unitary features to its Constitution which came into force on 26 January 1950. The democratic values of liberty, equality and fraternity find focused expression in the Constitution alongside the concept of justice in social, economic and political terms. The development process of the past 40 years and more represents the effort to translate these principles to the lives of the people.

7.47 As a multi-party parliamentary democracy, centered on the principle of collective responsibility of a council of ministers accountable to an elected parliament, the political system operates mainly at two levels: the Union and the States. The 'local government', in both rural and urban areas, comes within the purview of the States. The functions of governance are shared between the Central and State governments according to the respective responsibilities and powers assigned under the Constitution (Seventh Schedule). For example, public health, sanitation and water supply are 'State subjects', while education, labour and economic and social planning fall in the "concurrent list" with the States and the

Centre working together in the same field towards agreed aims.

7.48 While implementation is mainly through the administrative machinery of the States, financial flows are regulated by resource-sharing procedures which are periodically reviewed and adjusted in a Constitutional process. There have been major examples of centrally-sponsored programmes in the state sector; this trend is under review in keeping with the spirit of decentralised development as well as the need to reduce problems and delays arising from the central and state budgets not synchronising in respect of centrally funded programmes to be implemented by the states. Among the major issues of continuing relevance in this context are: equity in the distribution of national resources between States (and regions within them); and the comparative pace of planned development of different areas and population groups.

7.49 The centre-state financial equation is found as follows. While the centre is in a position to raise more revenues, the states are called upon to spend more than their income because of their direct responsibility for development (plan outlays and recurring expenditure reckoned as falling outside the plan budget) as well as for administration. The imbalance between non-plan expenditure and total revenue of the state governments is sought to be corrected every five years through the constitutional device of the Finance Commission which reviews and reshapes the basis for sharing of tax revenues between the Centre and the States as well as the transfer of central funds and grants to states according to justified needs. The allocations for the five year plans come from the difference between the overall projections of receipts and non-plan expenditure, for the centre and the states. The shares of the state level plans are determined by the Planning Commission on the basis of established criteria taking into account inter-state disparities and special problems faced by particular states.

7.50 The political process based on universal adult franchise has been able to sustain a plural society, despite the time it takes for a large federal system to progress by the

parliamentary route in the economic and social dimensions of democracy. The 9th general elections towards the end of 1989 provides proof of this, with an electorate of some 500 million including around 50 million additional young voters participating consequent on the lowering of the voting age from 21 to 18 years. Effective political participation has a long way ahead, considering the pace of the 'educational' process and the extent of illiteracy. This is illustrated, for instance, by the small proportion of women in parliament (Lok Sabha), despite women having had equal voting rights as men, since Independence. In the recently elected parliament, there are 25 women out of the 529 seats for which results are declared. This compares with 31 out of 520 in the 1967 elections. In between the number of women members in the Lok Sabha has ranged from 19 in 1977 to 42 in 1984.

7.51 Each of the states has its own legislative, executive and judicial wings of government. The population size ranges from 0.3 mn in Sikkim to 110 mn in Uttar Pradesh, as of 1981. The seven centrally administered Union Territories also have populations varying between 40,000 in Lakshadweep and 6.2 mn in Delhi.

7.52 Each state is divided into districts, presently over 450 of them with an average population of nearly 2 million. The number of districts to a state varies from one in Goa to over 60 in Uttar Pradesh. The district is further divided into smaller units (for general administration and revenue-collection) traditionally called tehsil or taluka. For 'development administration' the districts are demarcated, since the early 1950's, into blocks, well over 5000 in all.

7.53 The public administration in India has a stable and extensive hierarchial structure. With a history predating Independence, its ramifications and cadres embrace a large variety of functional responsibilities, ranging from law and order and revenue administration to economic management and development processes latterly including social planning – with a number of technical and management specialisms in between.

7.54 *Panchayati raj*: The Indian Constitution states in Article (40): The State shall

take steps to organize village panchayats and endow them with such powers and authority as may be necessary to enable them to function as units of self-government.

7.55 Currently, there is a revival of interest in the Panchayat, an ancient model of village democracy, which has continued in an attenuated form. There are some 217,300 village panchayats covering 96 percent of nearly 600,000 villages and 92 percent of the rural population. On an average, a panchayat covers 2-3 villages and a population of 2400. At about the block level, there are some 4500 Panchayat Samitis (called by various names), each covering an average 48 village panchayats. At the district level, there are 330 Zila Parishads (whatever the name), with an average 13-14 Samitis and 660 village panchayats.

7.56 All these bodies are elected for a term varying between 3-6 years. They have some powers to levy local taxes. They receive funds from government for specific purposes. Some 14 states have the 3-tier panchayat system as above – among them those where the system is functioning relatively well – e.g. West Bengal, Karnataka and Andhra. Another four States (e.g. Assam, Haryana, Orissa, Manipur) have a 2-tier system at village and block levels only. Some have only the village level panchayat (Kerala, Tripura).

7.57 The key issue, currently under public debate, is whether the Constitutional structure should evolve from Centre-and-States, to Centre-States-and-Districts, so that the democratic process is built up on the basis of self-governing units below the district level, with clear responsibilities and adequate resources particularly in respect of social and economic development. There is a growing opinion that this should happen, for practical and political reasons.

Legal framework

7.58 The examples that follow illustrate the significant overlap between the UN Convention on the Rights of the Child, 1989, and India's Constitution adopted in November 1949. A review is also made in this section of legislation of wide relevance specifically to children and women, as well as the gap

between intention and implementation. Most of these laws came into force, at the central or state levels, between the two years mentioned.

7.59 There is an enabling provision of high potential value in the Indian Constitution—Article 15(3)—by which the state can make special provisions for children and women without being constrained by technical interpretations of the broader concept of 'equality before law'. There are others of comparable relevance. The constitutional right against exploitation is unambiguous: No child below the age of 14 years shall be employed to work in any factory or mine or engaged in other 'hazardous' employment. Further, under the Directive Principles, the state shall direct its policy towards securing for men and women equally, the right of adequate means of livelihood; equal pay for equal work for both men and women; the health and strength of workers, men and women, and the tender age of children are not to be abused; citizens are not to be forced by economic necessity to enter avocations unsuited to their age or strength; and children are to be given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and childhood and youth are to be protected against exploitation and against moral and material abandonment (Article 39a, b, e and f). Again, Article 42 enjoins the state to make provision for securing just and humane conditions of work and for maternity relief. This is followed by Article 45 by which the state shall endeavour to provide (by 1960 according to the original stipulation) for free and compulsory education of all children until they complete the age of 14 years. While Article 46 directs the state to promote with special care the educational and economic interests of the weaker sections of the people, particularly the castes and tribes identified specifically in schedules to the Constitution, Article 47 makes it the duty of the state to raise the level of nutrition and standard of living and to improve public health. As noted in the previous section, these responsibilities are shared between the states and the union, with many of the functions especially in the social sector devolving on the former.

7.60 The question arises why, in spite of clear constitutional obligations on the part of the state, children suffer massive disadvantage in terms of basic needs including education, health care and nutritional support. In recognizing this gap, it may be noted that the Constitution does not accord to the related 'directive principles of state policy' the status and judicial enforceability attached to the 'fundamental rights'. The 'right to work', for example, which usually opens up the means to a family to care for its children is not yet a 'fundamental right'. There is the larger ideological issue of the role of the state in a developing country like India (as distinct from capitalist and centrally planned economies), in ensuring basic needs through market mechanisms where possible and state intervention where necessary. And in the event of state intervention, should the responsibility and resources be administered by necessarily large bureaucracies or be ceded to representative local bodies and credible voluntary organizations? There is also the practical question of finding the necessary resources, as health and education for all do involve investments of a much higher and recurring order than is the case today. Issues of this nature are inseparable from the legal right to basic material (as well as non-material) human needs.

7.61 To return to the situation on the ground: in pursuance of the Constitutional directive on universal free and compulsory education, some states such as Andhra Pradesh and Karnataka, as well as Delhi, have Education Acts providing for proper organization and development of necessary facilities, including the setting up of advisory boards. Many states do not have such legislation and in places where there is, implementation has been weak.

7.62 The latest in legislation to regulate child labour is the Child Labour (Prohibition and Regulation) Act of 1986. This law has generated considerable public debate and is of significance, in view of the number of children being exploited as cheap and docile labour (see Chapter 5). Conceptually, the line is drawn between work as a normal and beneficial part of the socialization process and as something that interferes with the social, mental and physical

wellbeing and development of the child. A number of other laws like the Factories Act 1948, Mines Act 1952, Plantation Labour Act 1951, Bidi and Cigar Workers Act 1966 and the Shops and Establishment Acts of the States reflect this concern. However, reports on the working of the various laws show that they have invariably failed to put an end to exploitation of children and employers usually succeed in escaping the prescribed penalties for violating conditions for minimum age of employment, maximum hours of work, prohibition of night work and medical examination of child workers. Of some 18 ILO Conventions pertaining to child labour, India has so far been able to ratify six.

7.63 The central and state governments have enacted a large volume and variety of laws to cover specific aspects relevant to child life, marriage, legitimacy, adoption, social defence, health, education and employment. These apply not universally but in particular situations and effective enforcement remains a major problem. Yet they represent social norms and provide a legal lever of value to social workers involved in helping children in especially difficult circumstances. The Juvenile Justice Act, 1986, repealed the pre-existing Children Acts at the central and state levels, in order to provide for the care, protection, treatment, development and rehabilitation of neglected or delinquent children. In their case, institutional care is to be resorted to only as a last measure. While progress has been made in implementing the provisions of this progressive legislation, qualitative improvement in the existing services has been slow in coming. Juvenile courts and welfare boards are still to be set up in many states. Separate handling of delinquent and other children is not ensured and the involvement of voluntary organizations at all stages of implementing the Act is meagre. Some states continue to confine children, thousands of them, in jails.

7.64 There is no separate legislation to deal with children who are vagrant or begging, they being dealt with under the various state Acts for prevention of beggary. Probation is an important non-institutional response to crime, particularly first offenders among children, reflected in the

Probation of Offender's Act, 1958. Here too, implementation has been weak for want of organizational resources to ascertain the facts regarding personality, social circumstances and rehabilitation prospects of the offenders. The Orphanages and Other Charitable Homes (Supervision and Control) Act, 1960, provides for minimum standards of services and education/training to the inmates. Experience shows that the relevance of service depends on the quality of the boards of control which the state governments may constitute.

7.65 The Child Marriage Restraint Act, last amended in 1978, raised the minimum age of marriage to 21 years for boys and 18 years for girls, but its enforcement has been ineffective especially in rural areas. It imposes restrictions on solemnising the marriage of minors, but does not invalidate the marriage. The Hindu Adoption and Maintenance Act, 1956, provides rights of adoption equally to males and females. No law of adoption is however available to non-Hindus, who may invoke the legal machinery under the Guardianship and Wards Act of 1980. A Bill on adoption of children, applicable to all communities was unsuccessfully introduced in Parliament in 1972 and again in 1982. The law relating to guardianship and minors also differs from one religious community to another.

7.66 The Registration of Births and Deaths Act 1969 is intended to help collect vital statistics but is not working as well as intended, on account of illiteracy and low public awareness. There is no law, as yet, requiring mandatory registration of marriages. The Medical Termination of Pregnancy Act, 1971, is meant to protect the physical and mental health of a pregnant woman and to prevent a child with abnormality from being born. These stipulations are not always respected. The Maharashtra Regulation of Use of Prenatal Diagnostic Techniques Act 1988 has been a response to sex-selective abortion (noted at the end of Chapter 3).

7.67 The Narcotic Drugs and Psychotropic Substances Act, 1985 provides for identification, treatment, education, after-care, rehabilitation and social reintegration of addicts, including children. A major involve-

ment of voluntary groups at community level is necessary for its success but is lacking. The same is true of the Juvenile Smoking Act, prohibiting the sale of tobacco in any form to children below 16 years of age, enacted by a few states like Karnataka, Punjab, West Bengal, Assam and Rajasthan.

7.68 Two pieces of legislation awaiting to be passed are the Infant Milk Foods and Feeding Bottles Bill 1986 and the more recent move to provide for the special needs of handicapped persons including children. Child-related legislation has not been effective mainly for two reasons: the prevailing socio-economic structure and the weak administrative machinery. For example, the Bonded Labour Act has legally banned the practice of bonded labour, which continues nevertheless. While physical facilities and personnel training are essential for success, the need for building up public opinion and pressure is even greater.

7.69 To protect the rights of women and to ensure their equality, several changes have been made in personal laws, criminal law and labour laws. These include amendments to Rape Law, Dowry Prohibition Act, Criminal Procedure Act, Evidence Act, Equal Remuneration Act and Prevention of Immoral Traffic Act. These changes in law have come about in response to the efforts and demands of the social movement of women, but they have not been effective in safeguarding the status or rights of women. For example, official figures show that violence against women are on the increase on account of one reason or another. Rape, including those in police custody, continues to be reported. There is evidence that the Minimum Wages Act, Equal Remuneration Act, Maternity Benefit Act and Contract Labour Act are not being properly implemented, seriously affecting women workers. Hardly any laws operate to bring relief to women working in the unorganized and home-based activities. The law dealing with prostitution is defective in that the man is not treated as an accomplice to the crime. The laws relating to bigamy and adultery are biased and perpetuate inequality within the family. The constitutional right to equality implies equal rights of inheritance for sons and daughters which is

not yet provided for even in law. Nor is the equal rights for husband and wife to property acquired by both. Incidentally India is still to ratify the Convention on the Elimination of All Forms of Discrimination against Women, adopted by the UN General Assembly in December 1979.

7.70 *Legal aid movement:* Since the mid-1970's, three innovative, inter-linked trends have taken root in India's legal system on a lead given by the judiciary in response to growing public concern. These are of special relevance to the vulnerable sections of society including women and children: free legal service through schemes at the Central and State levels (consequent on the new Article 39-A introduced in the Constitution in 1976); people's courts (Lok adalats) aimed at settling disputes by mutual discussion, without going to the law court; and, public interest litigation by which individuals or social groups can file cases in a court of law "to secure observance of the constitutional or legal rights, benefits and principles conferred upon the vulnerable sections of the community and to reach social justice to them". All the three devices have in fact become strategic arms of the legal aid movement. Thus nearly 10,000 persons were given legal aid and advice during 1988 by the Supreme Court legal aid committee; a similar order of help is extended under the auspices of the State High Courts. There is a parallel voluntary effort to promote legal literacy through social workers.

Food and Nutrition

7.71 The nutritional profile of children and women as emerging from Chapters 2-5 shows that nutritional adequacy has more dimensions than national foodgrain self-sufficiency. Indeed, self-sufficiency in food production will not address the problem even of hunger or the calorie gap, unless accompanied by purchasing power. Experience shows that nutritional improvement is a function of many factors such as: access to the variety of foods to supply the daily needs in calories, proteins and nutrients; freedom from infections and other diseases; and knowledge of the right types of food and feeding practices for the changing needs of growth and main-

tenance. The capacity to control the range of such influences on nutritional status implies, for example, avenues of employment and access to credit, safe water and a clean environment, appropriate farm and food policies including prices, subsidies, and land reform, sound feeding practices and eating habits, monitoring of child growth, reduction in the workload of women, supportive socio-cultural norms, and community management progressively of basic services. Efforts at better nutrition are thus needed simultaneously on several fronts. And their coordinated pursuit should be a concern of a national nutritional policy, which is still in the making.

7.72 While the nutritional status through the life cycle has been reviewed through the Chapters in Part I, the various factors of nutrition and measures in their support are touched upon in Part II. The present section focuses mainly on the food front.

7.73 As will be seen from the following paragraphs, a growth-oriented production strategy coexists with a conservative policy on social services and food distribution. Though it has been possible, even in bad years of drought like 1987, to prevent overt starvation and famine, endemic non-acute hunger seems to have persisted on a large scale. In terms of severe nutritional deficits across regions, social groups, age and gender, some inferences were possible in light of the discussions in Part I. At the household level, for example, calorie-proteins malnutrition seems to be more prevalent in the eastern states, Uttar Pradesh, Madhya Pradesh and Kerala. Among social groups, the nutritional status of scheduled castes and tribes stands substantially lower than recommended levels in most states. Surveys in semi-arid villages suggest that landless labour and marginal farm households do not get enough food the year around. In terms of age-groups, the incidence of severe malnutrition appears higher than in other groups among children 0-3 years in almost all states; more so, in tribal tracts. It was also noted that substantial, if scattered, evidence of gender discrimination, more in the north and the east than in the south, especially against young girls. The present section reviews the results and trends in food production,

as well as the access to essential nutrients for large sections of the people, including socio-economically vulnerable sections.

7.74 *Food Production:* During the 1980s, agricultural production recorded a combined growth rate of 2.7 percent per year, almost entirely on account of improved productivity rather than increased crop area. After a decline due to prolonged and widespread drought, in the previous two years, foodgrain production increased by over 21 percent in the crop year 1988-89, production of pulses by 25 percent and oil-seeds by 41 percent. These relative gains are explained by rains in the drought-prone areas, absence of major floods in the flood-prone areas and location-specific inputs under special production programmes in a number of districts mainly in the eastern region.

7.75 Consequently foodgrain production was over 170 million tons in 1988-89, passing the previous peak of 152 million tons in 1983-84. This level has been maintained in 1989-90. Relatively, the contribution of rice was much higher than that of wheat. Except for Karnataka, Kerala and Assam, the recovery in foodgrain production is widely shared by the states. Traditionally, the eastern region (including eastern Uttar Pradesh) has held two-thirds of the total area under rice and yielded only about 55 percent of the production. Use of better production technology has led to improved results. The overall contribution of wheat to total foodgrains has increased from 13 percent in 1950-51 to about 32 percent in 1988-89, the share of rice has remained stable at around 42 percent, while that of coarse grains, consumed mainly by the poor, has declined sharply from 29 percent to about 9 percent. A special focus is being given during 1989-90 to increase the area and yield of coarse cereals (jowar, bajra, maize, ragi, barley, millets) through high yielding varieties and improved techniques and inputs.

7.76 Pulses provide a unique source of protein especially for the poor. They account for 18 percent of the total area of foodgrain cultivation, but only 8 percent of the foodgrain production. The major producing states are Madhya Pradesh, Maharashtra, Orissa, Rajasthan and Uttar

TABLE 7.12

Iron, folic acid and vitamin C as well as phytin content of widely and commonly available natural foods consumed countrywide in India by both poor and rich.

| | Iron content mg/100gm. | Vit.C mg/100 gm | Folic Acid ug/100 gm. | Phytin (phosphate) mg/100 gm.) |
|-------------------------|------------------------------|--------------------|--------------------------|--------------------------------------|
| <i>Cereals</i> | | | | |
| Rice (raw milled) | 2.8 - 4.0 | 0 | 8.0 | 83 |
| Wheat (whole) | 4.9 -11.5 | 0 | 36.6 | 238 |
| Bajra | 5.0 | 0 | 45.5 | 141 |
| Jowar | 5.8 | 0 | 20.0 | 172 |
| <i>Leafy Vegetables</i> | | | | |
| Amaranth group | 25.5 | 99 | 149.0 | 2 |
| Colocasia leaves | 10.38 | 2.63 | - | 0 |
| Curry leaves | 7 | 4 | 93.9 | 35 |
| Drumstick leaves | 7 | 220 | - | 63 |
| Fenugreek leaves | 16.5 | 52.0 | - | 0 |
| Coriander leaves | 18.5 | 135.0 | - | 0 |
| Spinach | 10.9 | 28.0 | 123.0 | - |
| <i>Condiments</i> | | | | |
| Cumin seeds | 31.0 | 3.0 | - | 153 |
| Fenugreek seeds | 14.1 | 0 | 84.0 | 151 |
| Turmeric | 14.8 | 0 | - | 97 |
| Green chillies | 1.2 | 111 | 29.0 | 7 |
| <i>Fruits</i> | | | | |
| Amla | 1.2 | 600 | - | 296 |

Pradesh, which contribute more than two-thirds of the pulses production in India. While productivity and area under cultivation have lately improved, the declining production trend of the past two decades has not been reversed. As a result, per capita availability has declined steeply from 69 grams per day in 1961 to around 40 grams a day in 1989. This is cause for concern in the context of the unmet need of balanced nutrition. In fact, imports of pulses have grown from over 0.3 million in 1983-84 to over 0.8 million tons in 1988-89. Here again, a district-oriented approach to higher yield is beginning to be tried, adopting technology specific to each crop and location.

7.77 After a decline in production during 1985-88, oil seeds recorded a peak level of 17.89 million tons in 1988-89, helped by the recent thrust provided by the 'Technology

Mission', particularly in Gujarat and Uttar Pradesh.

7.78 Animal husbandry is a means of employment to marginal farmers and agricultural labourers and the rural poor, as well as a source of animal protein. It contributes a quarter of the total output of the agricultural sector. This proportion can vastly improve if, as is being attempted, the quality of the 193 million livestock and nearly 21 million poultry is enhanced with better infrastructure and technology. Milk production increased by over 18 percent from over 41 million tons in 84-85 to more than 49 million tons in 1988-89, while egg production rose from over 14 billion to 18 billion and more during this period, the per capita availability thereby improving in both the cases. Another major source of animal protein is fish production which has increased from 2.4 million tons in 1980-81 to

3.2 million tons in 1988-89, somewhat more from the marine sector than from the inland sector.

7.79 Two other approaches are being tried by the central and state governments to bridge the gaps in access to food, found mainly among the poor: First, a part of the foodgrain needs is supplied at lower than the market prices through a network of fair price shops. There are variations of this approach such as employment guarantee schemes providing "food for work". And second, direct feeding programmes are organized for children and women; of this several models exist. The magnitude and results these two approaches are reviewed below.

7.80 *The public distribution system* in India provides indirect nutritional support by making foodgrains (and some other essential commodities) available at affordable prices. It seeks to serve the twin objectives of protecting the purchasing power of the rural poor, and of stabilizing market prices of essential goods by absorbing a part of the total demand. This concept of matching entitlement and supply can only be as good as its translation into practice. During 1975-81, the cereal offtake from the system as percent of the requirements (based on a daily ration of about 400 grams per person) varied between 25 percent (1976) and 38 percent (1980). From another angle, the cereal offtake seen as percent of net availability of cereals in the country during 1975-83, it ranged from between 8 percent (1976) and 14 percent (1980). Clearly, there is a large disproportion between what people are entitled under the public distribution system and the supplies actually made available.

7.81 In another perspective, the average per capita daily cereal offtake from the public distribution system, in 1981 ranged from 27-30 grams in Gujarat and Andhra Pradesh, to around 77 grams in Assam and Orissa, and to 110-118 grams in West Bengal, Meghalaya and Kerala. It was the highest in Delhi at over 300 grams. Such support as is available, is however not focused specifically on the most vulnerable (except in some states like Gujarat and Andhra Pradesh where either some

specified groups are excluded or others given preferential access). Operational efficiency apart, the level of supplies through the public distribution system will have to be substantially increased to achieve the aim of protecting the consumption of those below the poverty line. About 85 percent of the net production of cereals has been moving through private traders and the uncontrolled market or self-provisioning by growers. Coarse grains consumed mainly by the poor have been an insignificant part of the public distribution supplies, at 6 percent or less of the total. On the basis of a ration scale at the minimum nutritional level, the system could have met the needs of about 18 percent of the population, but in reality, the coverage has been lower than the potential.

7.82 There are over 300,000 fair price shops in the country. However, the coverage of rural areas appears weak, except in Kerala, Tamil Nadu, Andhra Pradesh and Gujarat. Properly run, the system can respond to disasters like drought, as it did in 1987, by activating the system and quick expansion of food-for-work programmes in affected regions. By moderating the price of foodgrains, particularly during the off-season, the dependence of labourers on landlords for grain loans could be reduced.

7.83 On a regular basis, a substantial share of supplies continues to be absorbed by cities and towns where the poor as well as the non-poor have equal access—somewhat defeating the purpose of the scheme. States that account for a good part of the total population in poverty—such as Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan—receive only a small share of supplies through the public distribution system. Even in Andhra Pradesh, where the coverage is wide, the system could meet the minimum requirements of only around a third of the poorest ration card holders. Kerala, Gujarat and Tamil Nadu, the eligibility to ration is determined by multiple criteria biased to lower income groups, but without altogether excluding the non-poor. For example, in Kerala, a dual market has enabled the non-poor to buy from the open market as well the easing of the pressure on resources for running the scheme; through better reach and efficiency operating costs

TABLE 7.13

Distribution of nutrition expenditures, by state, 1985-86

| State 1985-86 | Annual real expenditure per child | Annual real expenditure per- child under poverty line (Rupees) |
|------------------|--------------------------------------|--|
| Andhra Pradesh | 1.50 | 3.80 |
| Assam | 9.10 | 42.60 |
| Bihar | 14.10 | 26.90 |
| Gujarat | 258.60 | 1010.10 |
| Haryana | 18.40 | 102.20 |
| Himachal Pradesh | 26.44 | 185.00 |
| Jammu & Kashmir | 38.20 | 210.00 |
| Karnataka | 88.70 | 240.00 |
| Kerala | 35.90 | 124.80 |
| Madhya Pradesh | 10.00 | 20.60 |
| Mahrashtra | 10.70 | 46.20 |
| Orissa | 19.40 | 43.60 |
| Punjab | 26.00 | 185.00 |
| Rajasthan | 5.90 | 13.30 |
| Tamil Nadu | 242.20 | 589.10 |
| Uttar Pradesh | 12.80 | 26.70 |
| West Bengal | 10.30 | 24.80 |

Source : K Subba Rao (World Bank)

are recovered from the consumers, making the food subsidy a viable scheme.

7.84 *Food prices:* The effectiveness of the public distribution system, and the larger issue of access to basic nutrition, is closely linked to the pricing policy and the manner it works. Here, there are two aspects: support price for the producer when market prices fall as they tend to after the harvest; second, fair price at the public distribution outlet to bring the commodity within reach of the poor. Both the concepts are sound as policy aims. In practice, support price is of limited relevance to the vast majority of foodgrain producers who are small farmers with meagre marketable surplus. As for the fair price helping the poor consumer, two major factors interfere with the intended benefit: weaknesses in the delivery system limit its scope; and the poor may not have cash at the right time to avail of the facility even if the price level is otherwise affordable. This is not to say that in the conditions obtaining in India, state intervention in the market on behalf of the poor, is not necessary, but rather, it should be focused

and effective to meet the basic needs of the deprived segments of the people.

7.85 *Feeding programmes:* The overall direct nutrition support expenditure is modest at 1.86 percent and 0.5 percent of state and central plan outlays respectively, as of 1986- 87. The Integrated Child Development Services (ICDS), introduced in 1975 has evolved from earlier health-and-nutrition action programmes such as the Applied Nutrition Programme initiated in 1959 for pre-school children and pregnant women and the Special Nutrition Programme in the early 1970s for young children and mothers in urban slums and tribal and backward areas. In addition to ICDS, the special nutrition programme (SNP) and mid-day meals (MDM) at school, continue in many states. The dispersion of children receiving nutrition support, and the related expenditure, by state, are shown in the following table.

7.86 A relevant question that arises is whether the resources and methods used are adequate to bridge the nutrition gaps in

TABLE 7.14

Distribution of children under feeding programmes, by state

| States | SNP inclu- ding ICDS | School meals scheme | Others | Total | In '000s | | | |
|---------------------|-------------------------------|---------------------------|--------|-------|----------------------------|-----------------------------|-------------------------------|------|
| | | | | | Number of | | Malno- urished children | |
| | | | | | All Child- ren 0-9 A | Poor Child- ren 0-9 B | A | B |
| Andhra Pradesh | 908 | - | 11 | 919 | 12600 | 4590 | 5594 | 743 |
| Assam | 512 | 95 | 12 | 619 | 7000 | 1650 | - | - |
| Bihar | 690 | - | 7 | 697 | 18600 | 9210 | - | - |
| Gujarat | 1151 | 3000 | 43 | 4194 | 8800 | 2140 | 5245 | 1338 |
| Haryana | 284 | - | 6 | 290 | 3500 | 550 | - | - |
| Himachal Pradesh | 75 | - | 2 | 77 | 1000 | 140 | - | - |
| Jammu & Kashmir | 102 | - | 1 | 103 | 1600 | 260 | - | - |
| Karnataka | 884 | - | 11 | 895 | 9300 | 3260 | 3980 | 520 |
| Kerala | 552 | 950 | 8 | 1510 | 6000 | 1610 | 1134 | 90 |
| Madhya Pradesh | 1048 | 1200 | 11 | 2259 | 15400 | 7120 | 7962 | 1771 |
| Maharashtra | 954 | 2000 | 40 | 2994 | 14600 | 5080 | 6950 | 1007 |
| Orissa | 1314 | 184 | 11 | 1509 | 7100 | 3040 | 3635 | 632 |
| Punjab | 159 | - | 6 | 165 | 3800 | 520 | - | - |
| Rajasthan | 563 | - | 5 | 568 | 10200 | 3500 | - | - |
| Tamil Nadu | 300 | 6400 | 6 | 6706 | 10000 | 3960 | 3980 | 520 |
| Uttar Pradesh | 682 | - | 27 | 709 | 29000 | 13140 | 9541 | 1769 |
| West Bengal | 1250 | 3200 | 11 | 4461 | 15500 | 6080 | 3565 | - |
| | 11428 | 17029 | 218 | 28675 | 174000 | 65850 | | |

Source : K Subba Rao (World Bank), 1989

respect of areas and groups in greatest need? There is evidence that children of scheduled castes and tribes in Madhya Pradesh, Rajasthan, Andhra Pradesh, Orissa, Bihar, West Bengal and Uttar Pradesh suffer heavily from malnutrition. It is also seen that direct nutrition expenditure per child in all these states is negligible. In contrast, the spending on supplementary feeding is substantial in the three southern states of Tamil Nadu, Kerala and Karnataka and in Gujarat. In Tamil Nadu and Gujarat, school feeding is the principal intervention, to the relative neglect of children under three years who are extremely vulnerable from malnutrition. If support is oriented to

cover not all children, but children below the poverty line, a large proportion of whom is malnourished, the productivity of feeding programmes could increase.

7.87 Analysts have noted the regional asymmetry in supplementary feeding programmes including ICDS: Four states in which only 26 percent of the poor children of the country are located (Gujarat, Maharashtra, Tamil Nadu and West Bengal) accounted for as much as 64 percent of all children benefitting from various feeding programmes.

7.88 The picture of food distribution is less than positive. Officially, poverty is

measured mainly in terms of the monthly per capita consumption expenditure corresponding to a daily calorie intake of 2400 in rural areas and 2100 in urban areas. As will be seen from the section on 'Socio-economic Structures', there are wide disparities between and within states.

7.89 As noted earlier, malnutrition among the poor is a matter not only of caloric deprivation but also of serious deficits in consumption of proteins and micro-nutrients such as iron, iodine, beta-carotene (vitamin A), and other minerals and vitamins. A view of this picture was provided in Chapters 4-5, with its links to morbidity as well as lack of food security at household level together with some idea of current responses to these problems. Except for iodine deficiency, the regional variations are yet to be reliably captured by surveys. In the case of iodine, available data from some 139 districts so far surveyed show that all but 10 are endemic for this deficiency, spread over practically all the states. As a response, there is a commitment to universal iodisation of salt by 1992. Major components of this programme include increased manufacture by allowing private producers of iodised salt, free supply by government of potassium iodate, incentives for salt iodisation and its control and vigorous education programmes. An improved distribution of iodised salt, more complete surveys and effective laboratory monitoring of iodine content are among the priority concerns.

7.90 In the case of other nutrition deficiencies, well organized responses specific to cause, location and culture, are necessary. Complementing short-term interventions, there is a need to promote viable long-term indigenous answers within the reach of poor communities. This would include changes of dietary habits increasingly relying on local resources. As shown in Table 7.12, a variety of vegetables and condiments available and traditionally consumed by the people, rich and poor, are fairly abundant in iron and other micro nutrients. The use of this local response awaits sustained processes of educational communication and local level production.

7.91 In summary, the absence (and pursuit) of a national nutrition policy is

reflected in the situation outlined above. The ramifications of any such policy appear to explain the delay in its formulation, given the multiple linkages of nutritional status with—food production, distribution and prices, health, environmental sanitation, education and employment. And, as noted in Chapter 4, an educational effort to strengthen the practices of breast feeding and food supplementation at the weaning stage using appropriate locally available foods is yet to happen in an organized manner.

Health Care

7.92 A sensitive index of a community's health status is provided by the chances of survival and growth of its most vulnerable segment, the young children below five years of age. An analysis of the health-and-nutrition situation of children and women (reflected in Chapters 1, 2, 3 and 5) leads to the following broad inference on 'what happens' to every 100 children born: One of them is likely to die before or at birth, sometimes along with the mother. Another 1 do not live to complete the first year. A further 6-7 die between one and five years. Of the remaining 82, some 60-70 survive against odds, their growth is sporadic, their development subdued. Only some 15-20 progress to anywhere close to their full potential. In addressing this situation, the primary health care approach is of direct relevance. Clearly, improvement in health is a function of several factors, including conventional health care, which is the focus of this section. The disease burden on the people and the health facilities available are reviewed below.

7.93 *Major diseases:* During infancy and childhood, the major diseases, ranked by the extent of estimated mortality, are diarrhoea, acute, chronic and dysentery, of some 20 etiologies (1.5 mn child deaths a year), acute respiratory diseases, mostly bacterial and viral pneumonias (0.6 mn), measles (0.5 mn) and tetanus (0.4 mn), followed by infectious fevers such as malaria, typhoid and hepatitis. In the majority of fatal cases, the common underlying factor is malnutrition.

7.94 *Diarrhoea* : Available information suggest that children under five years of age suffer three episodes of diarrhoea in a year on an average, 10 percent develop dehydration and one percent require to be admitted in a hospital. Hospital statistics show that 15 to 20 percent of patients seeking medical care suffer from diarrhoea. So do, 70 to 80 percent of in-patients, especially during the summer months. During the monsoon, the incidence of diarrhoea further increases, before it declines during winter in most parts of the country except in the hilly north-eastern region.

7.95 Diarrhoea is the largest single killer and as many as two-thirds of the deaths are probably due to dehydration and underlying malnutrition. A major national effort, control of diarrhoeal diseases, has provided retaining of all government health staff and extensive availability of free oral rehydration salts (ORS) in an effort to address the major cause of acute death by dehydration. During the past 5 years, the proportion of dehydration in paediatric hospitals has fallen from 35-40 percent, to much lower levels as a result of effective management of diarrhoea at home and in the outpatient department. Indian Medical Association has retrained tens of thousands of private doctors in the management of diarrhoea, and the public media has spread the message, particularly in urban areas. Today, more than half the patients appearing for treatment of diarrhoea are estimated to have already started adequate fluid replacement at home.

7.96 Studies show that safe drinking water helps to prevent diarrhoea, but only when the water supply is supported by health education, leading to behaviour changes like washing hands and covering the container. A national survey on knowledge and practices among mothers, health workers, doctors and pharmacists point to the need for better education and training of all health service personnel and of community awareness for prevention and management of diarrhoea at home, which should include proper feeding practices. The survey also showed that on an average, parents spend rupees 25 on each episode of diarrhoea, on unnecessary and sometimes harmful drugs. Oral rehydration

therapy is accepted in health policy as the right response to dehydration on account of diarrhoea. Emphasis is placed on identifying and promoting region-specific fluids and foods as the first line of response to childhood diarrhoea at the home-level.

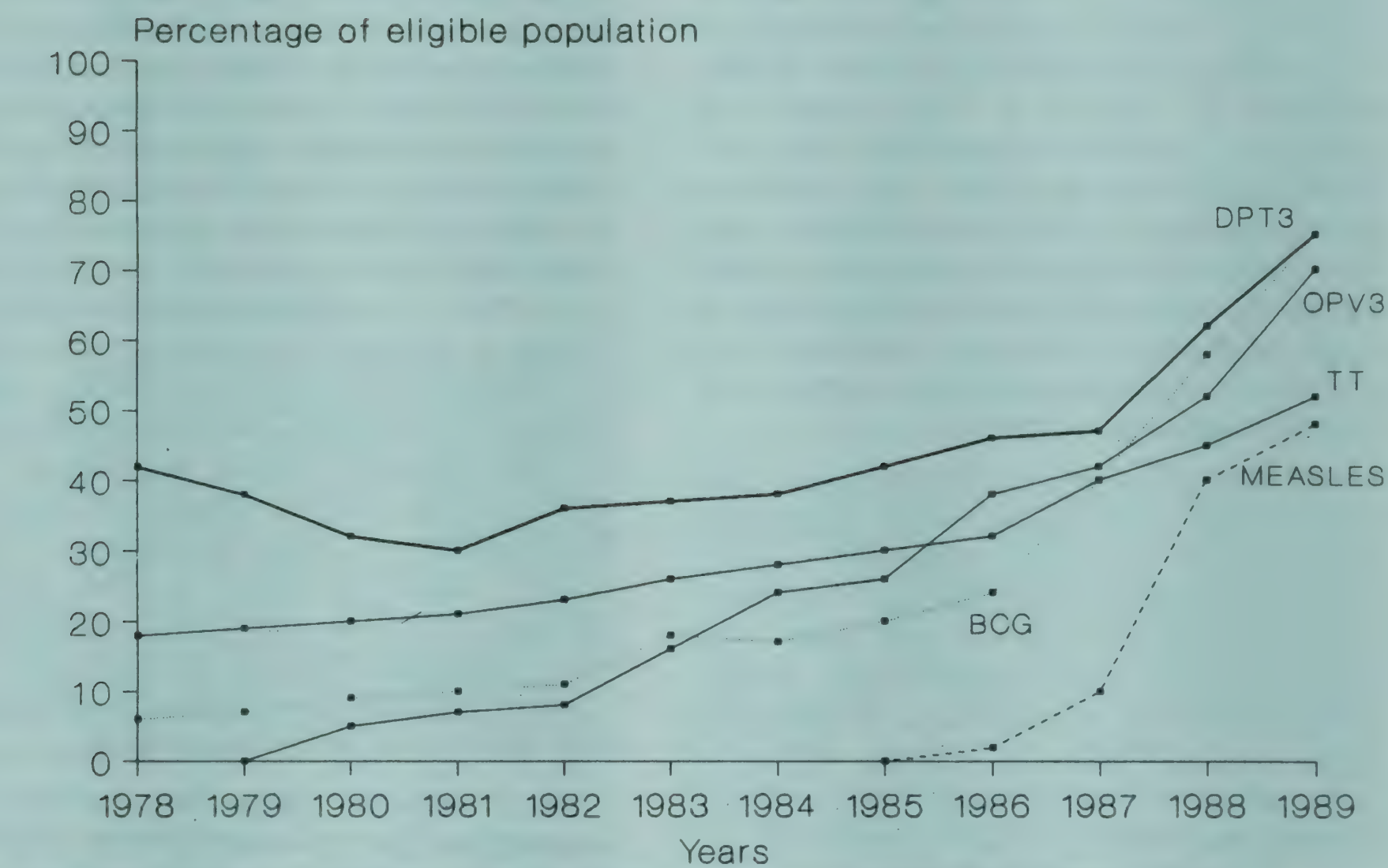
7.97 *Acute respiratory infection*, mostly pneumonia, contributes about a fifth of the mortality in children under five years of age. The case fatality rates in hospital is around 10 percent. Morbidity on this account is extensive, children suffering 3 to 5 episodes a year, each lasting 7 to 14 days. Acute respiratory infection accounts for 30 to 60 percent of out-patient hospital visits and 20 to 40 percent of pediatric admissions. Some 20 to 30 percent of all children suffer from pneumonia each year. And, up to 60 percent of pneumonia is caused by bacteria (unlike in Europe and North America where pneumonia is caused mainly by virus). Cheap and anti-microbial drugs are available which, if given in time, selectively and in proper dosage, can reduce mortality substantially.

7.98 Intervention studies show that community health workers can be trained to recognize pneumonia, administer anti-microbials in appropriate doses and prevent deaths. At the same time, indiscriminate use of antibiotics is to be controlled, particularly in the case of upper respiratory infection. Standardized diagnostic treatment and referral criteria are central to the community level of ARI control, now being promoted. The government has initiated intensive training and standardized antibiotic treatment in 15 pilot districts with a view to expanding throughout the country during the 8th five year plan.

7.99 Among the vaccine preventable diseases like *poliomyelitis* and *tuberculosis* seem to result more in debility and disability than in death. As noted, *tetanus* and *measles* contribute significantly to infant and child deaths. The most extensive public health undertaking over the past five years has been the expanded programme on immunization, EPI, initiated in 1978, and restructured in 1985 as the universal immunization programme, UIP, has led to an intensive Rs.2500 mn investment to provide adequate refrigeration and other "cold

DIAGRAM 7.4

Immunization of infants, pregnant women
percentage coverage



Note : Year 1977-78 to 1979-80 includes immunizations given to children upto 5 years of age.
Years 1980-81 to 1984-85 includes immunizations given to children upto 2 years of age

Source : Department of Family Welfare

chain" equipment to ensure vaccine potency in each and every district. Extending from the primary health centres to the sub-centres, and, more recently, through the initiation of fixed monthly clinics, to the villages and urban slums, EPI now supplies safe effective vaccines at the community level throughout the year. This effort, intensified in a 'Mission' mode of operation during the late 1980s involved detailed planning at the national, state, and each district to ensure in-service retraining of all health workers, regular and reliable supply of safe and effective vaccines, introduction of sterilization procedure, and supply of adequate syringes and needles, and most importantly, house-by-house enumeration of each village, and registration of all eligible children to assure a high degree of coverage. Linked with a major effort to mobilize community awareness and participation using mass media, civil leadership, and intersectoral collaboration with other social sector services for women and children in rural and urban areas, a remarkable increase in the coverage levels of immunization has been accomplished.

7.100 Other communicable diseases continue to be major public health problems. For several of them, specific national programmes exist as focused "vertical" programmes set up in the past and criticised at present in public health circles. While efforts have been made to integrate these activities at the level of the multi-purpose worker in primary health care system, this has generally not been successful.

7.101 *Malaria*: While the incidence of reported malaria declined from 75 million cases in 1952 to only 100,000 with no deaths in 1965, a relaxation of this intensive control and eradication resulted in a resurgence of the disease with over 6 million cases reported in 1976. In 1988, 1.8 million cases, 0.7 million due to *Plasmodium falciparum* were recorded. This more severe form of malaria is found in a belt across the north and, in many cases, is associated with the development of drug resistance, making treatment difficult and expensive. Additionally, some mosquitoes have become resistant to DDT spray, which continues to be a critical element in the control of this disease in endemic areas. Today, the

strategy includes a careful stratification of the entire country with regular insecticide spray to cover only those "sections" (an area of some 10,000 population) with a parasite index of 2 or more, (2 cases per 1000 population detected in the previous year). The widely accepted concept of presumptive drug treatment providing chloroquine at the village level to volunteers has been substantially compromised by the weakness of the village health guide scheme through which chloroquine pills should be provided at the community level. Vector control by residual spray and case detection and treatment remain the cornerstones of control strategy but intensified environmental control measures have shown promise in ICMR- sponsored study areas of Gujarat. Special efforts are being made to control the areas affected by *Plasmodium falciparum* with particular attention to control in those areas where drug resistance has been detected. An important pilot effort in a highly endemic district of Orissa is attempting to measure the effect of malaria on the youngest children, and to provide prophylaxis, both during pregnancy and through growth monitoring sessions, in the earliest months and years of life. Malaria is likely to remain a major public health problem in the coming decade, claiming significant numbers of lives including those of children and millions of episodes of sickness, loss of work, and associated nutritional impact.

7.102 *Kala-azar*: After disappearing consequent to the mass application of insecticides for malaria control, kala-azar has returned in the 1970s in epidemic form in northern Bihar and adjacent districts of West Bengal. Spread by the sand fly, a tiny insect which breeds ubiquitously in damp dark places, the disease is spread from a few districts in northern Bihar to more than 27 districts, and into neighbouring Bengal, with over 30,000 cases detected in 1989, and an estimated number some four times that. Controlled only by regular spraying of houses with DDT and resurgence has occurred in non-malaria areas, affecting largely children in the 5 to 15 year age group. The disease characterized by chronic fever, enlargement of liver and spleen, extreme susceptibility to other infections, and progressive weight loss is chronic, long-

standing, and eventually fatal if untreated. Treatment requires a full course of at least 20 injections of pentavariant antimony, a painful procedure with consequent high drop-out rates and extensive relapse amongst patients. Both spraying and case detection and treatment are required to contain kala-azar from spreading.

7.103 A disease mainly of childhood, yaws continues to be transmitted especially in the tribal areas of the states of Andhra Pradesh, Madhya Pradesh and Orissa. Having neared eradication in the early 1960s residual cases continue, with this disease transmitted by direct contact, often from mother to child. Some 1300 cases were recorded in 1985, many among children. Only Orissa continues special control teams to carry out detection and treatment which is responsive to a single dose of penicillin. Though relatively few in numbers, cases of yaws represent a debilitating disease among the most remote and least served populations.

7.104 *Japanese encephalitis*, also spread by mosquito, has occurred in sporadic outbreaks since 1955, appearing to intensify since 1986 when upwards of 10,000 cases have been reported. Attack rates may be one or two per 1000 population in affected areas and case fatality rate 40 percent, especially among children. Although an effective vaccine can be produced in limited quantities it requires large numbers of mice, is extremely expensive, and must be administered in two doses prior to disease outbreak with thousands of doses necessary to prevent even a small number of cases. In the face of sporadic outbreaks, vector control, including malathion fogging and possibly removal of carrier animals (pigs and certain birds) from inhabited areas are the known forms of control.

7.105 *Dengue fever*, epidemic during the rainy season, especially in urban areas, is reported in some 15,000 cases per year and may occur 10 times that number or more. As the aedes mosquitoes breed in and around houses in clean water (tins, flower pots, tyres, rain gutters), control measures based on community understanding and elimination of breeding sites are the most effective strategy. Malathion spray and fogging has been used in intensive outbreaks,

but is a costly preventive measure. In recent years, there has been an increase in haemorrhagic fever and dengue shock syndrome associated with these outbreaks, particularly among children and it is expected that these could rise in coming years with the increase in mosquitoes and population densities.

7.106 *Tuberculosis* remains the single major communicable disease affecting adults, with more than 10 million persons suffering, a fourth of them openly infectious. Some 500,000 persons die each year with a far fewer number effectively detected and treated in over 370 district tuberculosis centres, 300 urban clinics, and specialised hospitals. Based on extensive work conducted in Madras and Bangalore, the national strategy embraces home-based treatment, and, since 1984, short course chemotherapy, enabling full treatment in only 6 months (in contrast to the standard two-year regimen), using 3 or 4 effective drugs to avoid the development of resistance and to achieve more rapid cure. Nonetheless, with case detection estimated at only 30 percent, and completion of treatment still under 50 percent, there is annual rise in the number of tuberculosis cases which could cross the 20 million mark by the year 2000. While BCG protects from the most devastating forms of infantile tuberculosis, (meningitis and disseminated tuberculosis), it does not appear to offer long-term protection against the adult forms of the disease, or to prevent the transmission, which occurs from adult to child in millions of households throughout the country today. Intensified case finding and more effective follow up and treatment of known cases are necessary in order to see a decline, given the population increase.

7.107 *Leprosy*: With an average prevalence of 5-6 per 1000 population, there are some 4 million leprosy cases in India (60 percent of the world's total) with a fifth of these in children below age 14. Some 15-20 percent of the cases are infectious, spreading through close, prolonged, and direct contact to family members. Cases under proper treatment do not transmit the disease. An intensified multi-drug treatment regimen has been initiated in the 76 districts

with prevalence exceeding 10 per 1000 population, accounting for some 60 percent of all cases in the country. Overall, 206 districts exceed the rate of 5 cases per 1000 population, found largely in the south and the east. Early detection through direct survey and particularly referral by existing patients, and regular treatment results in effective control, but long term health education and rehabilitation are required to bring these patients back into the mainstream of the society. In addition to 500,000 cases who are cured or die each year, there are many more who are deformed by the disease and require both surgical and social rehabilitation. The intensification of leprosy control during the late 1980s has resulted in a decline in the number of new cases being detected, and for the first time, more cases achieving cure than those dying. An important challenge is to the social stigma, which makes detection of cases and rehabilitation of cured patients extremely difficult. Intensification of leprosy control in endemic districts involving the training of special paramedical workers, close supervision, and community-wide education is at last providing the prospect of an overall reduction in this ancient and dreaded disease.

7.108 *Meningococcal meningitis* is endemic in large urban areas spreading person to person in epidemic form, especially during the winter and early spring, affecting primarily children, particularly those in close contact with other children, (creches, anganwadis). The disease is frequently fatal. An effective polysaccharide meningococcal A and C type vaccine is available but expensive, and not yet made in India. The organisms are sensitive to penicillin and sulpha iazine, but treatment is difficult and requires extensive hospitalization with high fatality rates and severe life-long consequences for the survivors. Sulfa prophylaxis of contacts is recommended but rarely provided even to those in touch with the 20,000 odd cases reported annually.

7.109 *Viral hepatitis*, more than 150,000 cases reported annually, is due to at least three types of organisms: acute viral hepatitis A, transmitted enterically like diarrhoeal disease, accounts for 30-70 percent

of jaundice in children. It is not usually fatal. Hepatitis B, the serum hepatitis transmitted at birth by blood and in adults by blood or sexual contact, is a far more infectious causing chronic and eventually fatal conditions, such as liver cancer. The disease is transmitted particularly from asymptomatic carriers and is found in 5 to 10 percent of professional blood donors, as well as drug abusers, and patients in sexually transmitted disease clinics. Most significantly, this disease is passed from mother to child at birth, a transmission which can be effectively interrupted by the early administration of hepatitis B vaccine in 3 doses in the 1st, 3rd and 6th months of life. This vaccine has been introduced into a number of national EPI programmes around the world.

7.110 Recently, epidemic *jaundice*, caused by non A-non B virus has been found in many parts of India. With particularly high fatality among pregnant women, this disease is thought to be enterically transmitted with control possible only through effective hygiene and sanitation. Administration of specific immunoglobulins may be protective, though extremely expensive, and not a practical public health measure. Screening of blood donors, improved sterilization, and health care facilities made possible through the supply of sterilizers and syringes and needles in EPI are effective means of public control.

7.111 *Rabies* is a major problem in India, claiming over 25,000 deaths a year, and requiring an estimated 5 million persons who receive dog bites to undergo post-exposure prophylaxis annually. Dogs are the major transmitters and control measures rely predominantly on the elimination of stray dogs, and regular immunization of pets. The present sheep brain vaccine, though effective in 14 daily shots, results in severe or fatal reactions in one of 10,000 cases, and local reactions in a far higher proportion. Improved vaccines are produced abroad but remain expensive, suggesting the need to develop appropriate alternatives.

7.112 *Rheumatic fever*, although almost disappeared in industrialised countries, is associated with urban crowding and follows

in 1-3 percent of cases with the common streptococcal group A sore throat. Resulting in life-long crippling rheumatic heart disease, this avoidable illness can be prevented primarily through 10-day treatment with penicillin of all sore throats, or, secondarily, in those cases which have been detected at the first occurrence of rheumatic fever, by the monthly administration of longacting penicillin throughout childhood, to at least the age of 18. While both of these strategies are difficult to implement where health services are limited, the high prevalence of rheumatic heart disease of 2-11 per 1000 in the age group of 5-16 years (ICMR survey) will bring a great burden on to curative services as these children reach adulthood and require cardiac surgery for normal life function and even survival.

7.113 Diseases of poor environmental sanitation continue to afflict most Indians. However, *cholera* has declined in recent years although it occurs in occasional outbreaks such as the epidemic in Delhi in 1988, when over 30,000 cases of cholera-like illness with more than 2,000 confirmed cases, claimed over 300 lives in the city. Cholera must be considered endemic although at much lower levels than ever before in the country. As current vaccines are relatively ineffective, even for personal protection, and have no value in controlling the spread of the disease, only environmental sanitation and prompt treatment with oral rehydration are the main strategies for control. New oral vaccines have been under field trial in Bangladesh.

7.114 *Typhoid* and para typhoid are seen in localised outbreaks with some 300,000 cases reported annually, and even higher levels as recently as 1988. The disease is spread through water-borne outbreaks as well as from food handlers. While typhoid immunization was a part of EPI in the early years of the decade, it has been discontinued due to poor acceptance and uncertainty of vaccine efficacy in controlled field trials. New oral vaccines are under development.

7.115 *Worm infestation* is seen widely in all segments of the population with the most common *ascaris*, or round worm, almost universal. Mild infestations are of no clini-

cal significance, but frequently treated by private and public health practitioners alike. Hookworm is found in smaller pockets and may contribute significantly to anaemia. *Giardia*, and amoeba contribute to chronic diarrhoea in less than 2 percent of cases. Personal hygiene, safe drinking water, and improved public sanitation are necessary for control. Periodic mass deworming has not proved an effective means of controlling either worm load or reducing the associated malnutrition.

7.116 *Guineaworm* is endemic in 6 states spread over some 4,000 villages in 65 districts. Tamil Nadu, and more recently Gujarat, have become free of the disease late in the 1980s with the major population still affected residing in Rajasthan and neighbouring Madhya Pradesh. India has developed a guineaworm eradication plan based on provision of safe drinking water supplies, conversion of unsafe water sources, and their protection from entry of patients, control of the vector cyclops by periodic application of Temephos in open drinking water sources, health education to promote filtration of drinking water with mesh filters, and case management and containment through worm extraction, treatment and prevention of water contamination by worm infected patients. Together these strategies promise to eliminate entirely guineaworm infection from India in the early years of the 1990s. From 40,000 cases in 1985, less than 10,000 were found with intensive medical searches in 1989. The programme in Rajasthan has demonstrated the importance of community participation, intensified education efforts and involvement of women in an understanding and control of this chronic and debilitating disease.

7.117 *Sexually transmitted diseases* are found in from 1-14 percent of adult population groups, more in urban areas, but not confined there. 1-3 percent of women attending ante-natal clinics are sero positive for syphilis with a wider prevalence of gonorrhea, chancroid and, in the southern states, increasing endemicity of lymphogranuloma venereum. Since 1986, the country has established 70 centres for screening blood for HIV infection, the causative virus of AIDS. By mid 1990, only

40 odd AIDS cases had been detected, but an initial low level of positivity has, during the past year, changed with the dramatic increase in HIV antigen amongst blood donors, STD clinic patients, and in isolated pockets where intravenous drug abuse is known to occur. In some cities professional blood donors show HIV virus in up to 10 percent of their number, with STD patients closer to 15 percent. Presently, the government is attempting to screen all blood before transfusion to discard those positive, but there is yet no attempt to identify or follow up those donors from whom HIV infected blood was obtained. Public information has not resulted in any substantial changes in behaviour among vulnerable populations, particularly prostitutes, their clients, drug abusers, and professional donors who are often among the poorest in urban societies. HIV vaccine is a much hoped for yet distant prospect.

7.118 *Trachoma*, a blinding disease caused by a virus-like agent transmitted from person-to-person by direct contact, or possibly by flies, is responsible for 5 percent or more of visual impairment and blindness in the country. Appearing as chronic conjunctivitis, the pusy watery eye, some 120 million cases are estimated to exist, starting mostly in childhood. Control activities began in the early 60s, and though integrated into the National Programme for Prevention and Control of Blindness, depend largely on health education and detection by the normal health workers serving in the PHCs and sub-centres of the country. Treatment with tetracycline eye ointment for 3 weeks is required and reinfection is common. Improved access to clean water and personal hygiene are important strategies for the eventual control of this disease. Meanwhile, it represents a continual threat to the well being of children, especially those living in dry areas.

7.119 *Lathyrism*, a neuro-paralytic disease resembling polio, is caused by the consumption of large amounts of Kesari dhal (*lathyrus sativus*), grown almost exclusively in a few parts of central Madhya Pradesh where it is consumed by the poorest families, often agricultural labourers who are paid in this produce. The resulting

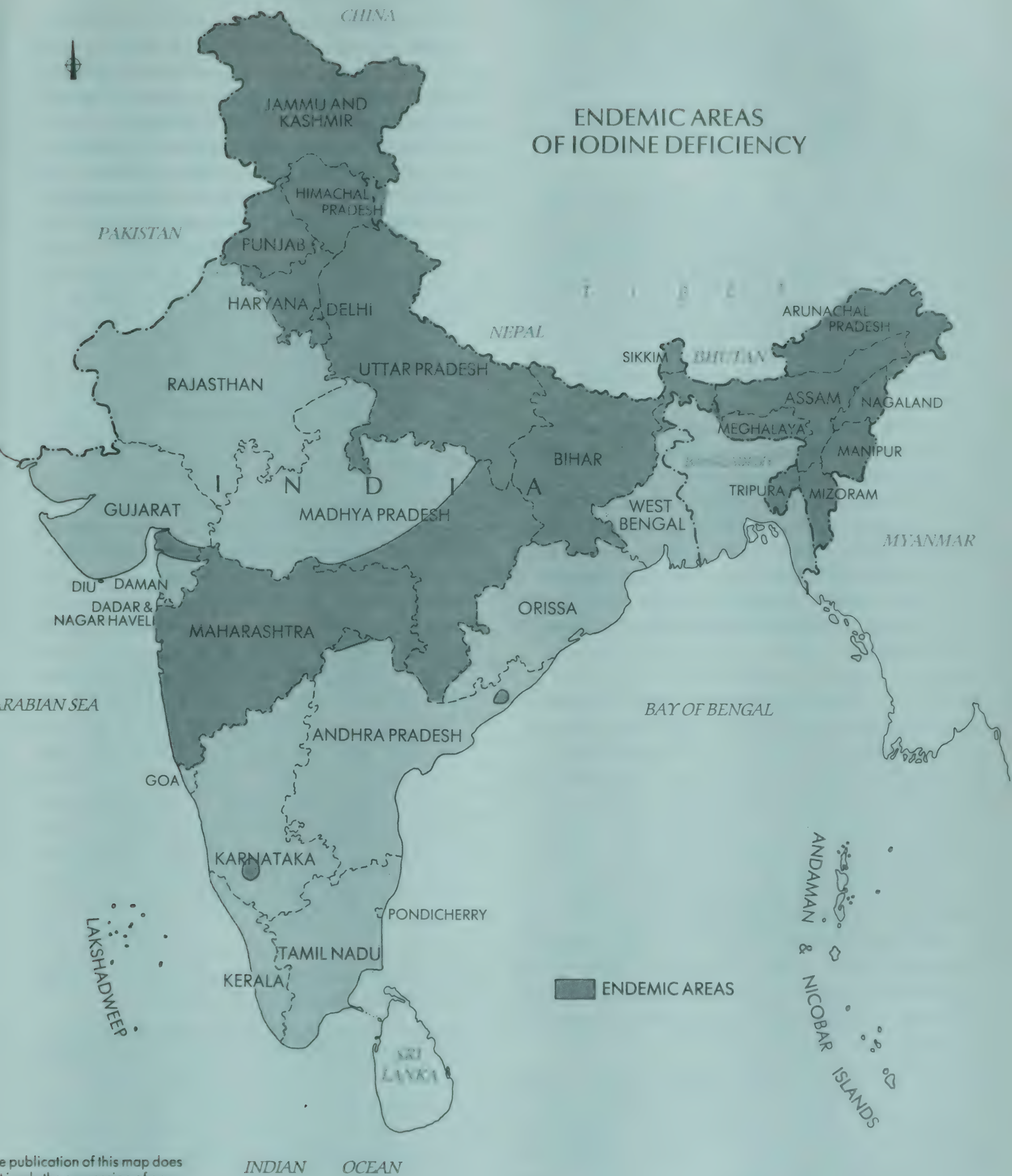
paralysis is life-long and irreversible. Efforts to control or eliminate the cultivation of this hardy and drought resistant crop have not been successful as it grows in some of the most agriculturally unproductive land of the country. Health education has been of little value for it is consumed in large quantities only in times of great food shortage or famine. Public measures to assure adequate alternative food supplies offer a workable alternative to this unnecessary disease which affects especially young and adolescent children.

7.120 Diseases of developed societies are unquestionably on the rise in India today, for it must be recalled that over 250 million of India's population (the size of the United States of America) are economically in the middle to upper classes, and follow life styles much like industrialized countries. Diabetes, heart disease, hypertension, and cancer, many conditions related to dietary habits of overeating, lack of physical exercise, and the mental stress of the modern urban life are rising. Increasingly the health system is called upon to deal with these disorders, particularly to provide diagnostic and curative services to the rising number of middle class in urban areas. These diseases are an important group of illnesses that will have an indirect effect upon children, especially rural poor children, as they pre-empt an increasing proportion of the health budget and attention of health and medical workers to the possible detriment of the more classical diseases of poverty and under-development.

Accidents and Injuries

7.121 Accidents are a leading cause of morbidity and mortality and account for a significant proportion of hospital admissions. They occur, often increasingly, at the workplace, farm as well as factory, on the road and in the home where injuries to children and women are not rare. Focused attention is needed to prevent and control accidents to avoid unnecessary suffering and loss of life.

7.122 A reliable or recent estimate of the magnitude of this scattered problem is difficult to get, but some indications are available. Transportation deaths in India, mainly from crashes on the road, and including



The publication of this map does not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or its delineation of its frontiers and boundaries.

Source: Ministry of Health

rail, water and air accidents, are estimated at around 50,000 a year; those seriously injured could be ten times or more this number, a significant proportion of them disabled. In Delhi, according to police records, the number of traffic deaths in 1985 was 1269, some 58 percent of them struck by bus or truck, and 51 percent occurring in bright daylight.

7.123 Domestic injuries happen from a variety of causes ranging from fire, animal bites and house collapse to poisoning and violence. Data collected by the Home Ministry in the mid-1970s showed over 55,000 deaths a year in this category and there would have been a large number of unreported deaths and serious injuries.

7.124 Occupational injuries in the organized sector and beyond, including agriculture, must be relatively high in India. For instance, the death rate for workers in factories coming under the Factory Act was 14 per 100,000 workers (1975) compared to 9 in the USA (1978). And, death rates in construction, plantation work, fishing and forestry are usually higher than those for factories.

7.125 Current investigations, by the Indian Institute of Technology, Delhi, in rural communities in Haryana show significant incidence of injuries (which prevented normal activity for one or more days) in the case of 2059 persons in a year (30 percent of them women), among 3500 families. Among these women, 30 percent of the injuries were from agricultural activities (fodder cutters, threshers, tractors, sickles, shovels) and 26 percent from domestic activities (falls, burns, cuts). The study also shows children playing with farm machines and losing their fingers or getting seriously hurt.

7.126 Four major hospitals in Delhi recorded an annual average of 233 cases of firework injuries during the 'Diwali' festival over 1983-87, burns in some 85% of the cases and eye damage in another 7 percent. Young children drinking kerosene by mistake, getting hurt from floor-level kitchen fire and injured by cattle are typical occurrences, apart from the health hazards to which millions of child workers are ex-

posed not to mention the unexplored area of emotional injuries.

7.127 *Deficiency diseases* are extensive, some 50-70 percent of children (and mothers) being deficient in iron; millions of children are affected and thousands (some estimates suggest 40,000) are turning blind each year on account of vitamin A deficiency; and about 40 mn people—children and adults—affected by iodine deficiency with several times this number exposed to this environmental risk in different parts of the country. As noted in Chapter 2, the response to these deficiency disorders consists of distribution of iron and folic acid tablets and vitamin A solution through the public health outlets; and production and promotion of iodised salt through private channels for regular public consumption. Information on various other micronutrient deficiencies is scarce, as noted in Chapter 2.

7.128 How does the health system respond to the health problems as outlined above? Right from the first five year plan, the basic public health strategy consisted of expansion of the physical infrastructure including mother-and-child health (MCH) centres, family planning programme, control of communicable diseases (followed by similar action for deficiency disorders related to iron, iodine and vitamin A) and expansion and training of health personnel, especially women workers including trained birth attendants. While these aims have advanced, the concept of a coordinated system linking clinics, domiciliary care services and public health activities is yet to be realised. The need for close interaction with people in the preventive and promotive aspects of health care (as distinct from medical care) has also not been fulfilled to the intended extent.

7.129 The weaknesses of the family planning programme have been extensively discussed and constructive points of criticisms are increasingly well-received. First, the programme must work towards involving the people in their own health care in a manner which takes into account the available health infrastructure in rural areas, the problems of physical accessibility, the basic needs of the poor, the state of technology and above all the institution of family, and social organization,

keeping in mind the question of equity. Every district would have its own health plan within which there could be a sustainable family planning target and a flexible population-specific strategy to achieve it. Instances have been noted where undergoing a sterilisation is seen as a favour done to the canvassing official and often it is the husband who pushes his wife to the sterilisation table and collects and spends the incentive money on himself—instead of having the much simpler operation on himself.

7.130 Second, there is a need to support the aim of responsible parenthood with at least a measure of social security at the family level. The official perception of a small family of two children and the perception of rural parents of a small family of two children may coincide, yet unfortunately differ. The former can mean one son and one daughter, or 2 sons and no daughter, or no son and two daughters; while the latter perception is 2 sons and one daughter, or 2 sons and no daughter. As this means two surviving sons, the average family size may go up to 5 or 6.

7.131 This situation is brought out by a recent national survey on the association between fertility levels and the number and sex of surviving children. It was seen that parents with one or more surviving sons were much more likely to be using family planning than parents who had only daughters. In fact rural parents with three or more surviving sons were over twice as likely to be using family planning as parents with only one son -- and over three times as likely as parents with three or more daughters.

7.132 The health policy guiding the national health system, as most recently articulated in 1982, provides clear attention to the importance of preventive low-cost health care provided free of cost, especially to the rural and urban poor. A logical extension of the famous Bhole Commission, 1946, Plan for Health in India, the policy embraces the concept of primary health care through a high coverage infrastructure of paramedical staff in sub-centres supported and supervised by medical officers in primary health centres and a hierarchy of secondary and tertiary care facilities providing high

technology curative, and almost invariably, urban services. While health is a state subject, Central supported schemes, particularly in the field of primary health care, family planning (family planning along with MCH services is termed "family welfare") and the cost of control of key communicable diseases is met in full or in part by central government funds.

7.133 Meanwhile, an impressive rural health infrastructure has been developed. As of September 1989, over 585,000 traditional birth attendants (dai) have been trained. In some 10 districts, the trained dai is being functionally linked to the auxiliary nurse-midwife. A cadre of voluntary health workers from the village community, with a three-month training, was begun in 1977. Some 408,600 such 'village health guides' have been trained. Since 1985, there has been diminishing support for this cadre of community workers. Health sub-centres for every 5000 rural people (3000 in hilly, tribal and backward areas) expected to have a trained auxiliary-nurse midwife (ANM) and a trained male health worker, are in place, some 130,000 by March 1990. At the next higher level, at the block, a primary health care for every 30,000 people (20,000 in the exceptional cases) are also available now, 21,000 in all, each with 3 doctors, health assistants, nurses, a health educator, a laboratory technician and paramedical workers. As a referral centre community health centres are coming up at the rate of one for four primary health centres. Over 2000 have already been established. Training programmes are proceeding apace.

7.134 Small hospitals exist at the taluka level which feed into district hospitals of 200 beds or more, where speciality services, blood banks, and an array of secondary curative care is available. Together with the extensive network of municipal hospitals, (more than 3,500 hospitals exist in India, over 80 percent of beds are in urban areas), these represent the referral system, which in theory provides access for each citizen to the specialized health care available in specialized institutes and hospitals and medical colleges.

7.135 The health facilities and personnel can establish functional linkages with the expanding ICDS infrastructure, the schools

system, the water and sanitation programmes, district centres for disability rehabilitation, nutrition support programmes and so on in the common aim of health education, behaviour change and optimal use of available resources. The social demand for health care is linked not only to the ability in terms of time, energy and money to seek it but also to the perception of need through better awareness. The supply side is made up of the availability, access, actual use and quality of the service. A demonstration of what can be achieved when the public health system pulls together with other sectors as well as the private health practitioners and no less importantly with the people themselves—is provided in the progress of the universal immunization programmes, especially since 1986.

7.136 An illustration of the positive effects of a holistic approach to child health and development is provided by the potential of ICDS. It is generally agreed that ICDS—in which supplementary nutrition and nutrition-and-health education coexist with health care, and in the case of the 3- 6 year age group with pre-school learning—holds immense potential for improved efficiency and location-specific adaptation. It represents a valid policy response because it is aimed at children and women among whom malnutrition is concentrated, and infections recur, it is set up in areas of chronic nutritional deprivation such as tribal belts, scheduled caste villages and urban slums. Given the rapid spread of ICDS (covering over 2,400 of the 5,000 odd administrative blocks in India), the programme can reach effective and timely health-and-nutrition support to young children. This pre-supposes a proper match between the service and the need, as well as strong community involvement and improved operational efficiency. In aggregate terms for all ICDS projects in the country, the overall impact of the programme has been positive, in terms of nutritional status as well as infant mortality rates, but inter-project variations are so wide as to make specific conclusions difficult to draw. For example, the number of feeding days in a year range from 30 to 300 across projects. Longitudinal information on nutritional status of children (participants and others) in the same project area, seen against the socio- economic

background of the households, would be necessary to reach definite conclusions on the nutritional impact of ICDS. There is a view that many of the weaknesses of the ICDS can be removed by more effective implementation with closer collaboration with the health services and greater involvement of voluntary groups and community organizations.

7.137 Beyond the public health system, there is a vast spread of private health personnel, over 350,000 registered medical practitioners in the allopathic system alone. Doctors are trained in 106 government recognized medical schools (there are an additional 20 or more private medical schools licensed at the state level) with more than 12,000 graduates per year, less than 10 percent of whom are absorbed into the public health system. There has been a major emphasis on the training of multi-purpose female worker (MPWF) or ANMs. In an 18-month course some 6,000 a year are produced at 350 ANM training schools at the district level. Their male counterparts are retrained in rural Health and Family Welfare Training Centres at a far lower rate of 2,000 per year. Health assistants and supervisors are often trained in hospital-associated schools of nursing in larger urban centres. Training at all levels tends to be clinical, curative hospital-based with relatively little community exposure and public health experience.

7.138 A large number of indigenous practitioners serve the vast majority of rural population. There are about 400,000 registered practitioners: Ayurveda (240,000), Unani (28,000), Siddha (12,000), and Homoeopathy (122,000). In addition, there are an estimated 500,000 practitioners of medicine who have not graduated from a formally recognized course or programme. Numerous field studies in rural areas have demonstrated that this large, unenumerated, and unorganized cadre of health workers, largely prescribing and dispensing medicines in small rural shops, may see 70 or 80 percent of all cases of illness, and provide the vast majority of health care, especially for women and children who are served much less frequently by the public health system. While at times in the past the government

TABLE 7.15

Pattern of investment of health, family welfare and water supply in different plan periods

| Sector | Investment as percentage of total Plan Investment | | | | | | | |
|------------------------------|---|-----|-------------|-----|-----|-----|-----|-----|
| | I | II | III 1966-69 | IV | V | VI | VII | |
| Health | 3.3 | 3.0 | 2.6 | 2.1 | 2.1 | 1.9 | 1.9 | 1.9 |
| Family Welfare | - | 0.1 | 0.3 | 1.1 | 1.8 | 1.3 | 1.0 | 1.8 |
| Water Supply & Sanitation | 0.6 | 1.6 | 1.2 | 1.6 | 2.9 | 2.8 | 4.0 | 3.6 |
| Total | 3.9 | 4.7 | 4.1 | 4.8 | 6.8 | 6.0 | 6.9 | 7.3 |

* Figures from I to V Plans are based on actuals whereas those for VI and VII Plans relate to outlays.

has attempted to register and regulate these practitioners, they are not subject to any level of control, continuing medical education, or standard practice. While representing the largest cadre of health workers in the land, least is known about them and less is done to improve and control the quality of their work.

7.139 The health-for-all goal presumes several changes—primarily a shift from an over-professionalized system to a redefined role for medical personnel, community workers and common families. There is an unmet need to match skills and resources with requirements. For example, 75 percent of the doctors live in urban areas while 75 percent of the people are in rural areas. There are some 40,000 pharmaceutical formulations in the market, but the small number of drugs, up to about a 100 or so, which are most needed to prevent and cure the common diseases do not receive the priority they deserve. Learned analyses of ways to improve the health system exist. Alternative approaches with a graded referral system have been shown to work—where health professionals are primarily educators not only of their team but of the community.

7.140 *The pattern of health expenditure* is yet to be geared fully to the concept of primary health care, which remains the

main instrument for moving towards health-for-all. The overlap of the elements of primary health care and the minimum needs programme of the five year plan, has been increasing. While government spending on health and family welfare has been steadily increasing, in absolute terms, the proportion of the plan outlay spent on health care has been declining from plan to plan.

7.141 Within the health sector, the order of priority, as reflected in official allocations has been: family planning, hospitals and dispensaries, communicable disease control, rural health, including mother-and-child health, education and training. Of the planned funds for health, (excluding family planning), around 40 percent is spent on health facilities and medical education. There is a strong urban bias in the pattern of health expenditure and the rate of utilisation of the rural health budget is low. This bias is strongly reflected in the content and orientation of medical education, with community medicine receiving relatively low priority and prestige. Schemes such as village health guides and multi-purpose workers have received less than 10 percent of the health budget of the states, who have a direct responsibility for making them a success. The central government contributes the grater share than of the states plan funds for control of communicable diseases.

7.142 During 1971-81, most states increased the per capita health expenditure on the average by Rs.1.2 to Rs.2.2 per year. However, India ranks low among developed countries in per capita health expenditure, despite the relatively developed and widespread infrastructure. According to a study (WHO, 1981), the figure for public health spending in India was only 0.6 per cent of the gross national product. It must be added that private health expenditure is estimated to be about 3 to 4 times the government spending, so that about 2 per cent of GNP is spent on health care. A 1980 study in Karnataka showed that 7 percent of the annual income of poor rural families was being spent on health expenditure, around 45 per person a year. Families living within 5 kms of a government health centre (which is expected to provide free health care to low income groups), were spending on an average Rs.34 per person in a year. Another 1980 study of 2 villages in Uttar Pradesh estimated per capita annual health expenditure between Rs.83 in eastern Uttar Pradesh and Rs. 121 in the western part of the state.

7.143 A significant feature of health in India is its maldistribution, biased in a favour of the urban, upper and middle classes, and biased against the rural poor and in particular, children and women among them, in the populous states of the north. While the health policy rightly focuses on providing the "goods" to maintain health and "services" to reduce or prevent illness, in the case of who have neither, the level of health facilities for the higher income groups (in terms of well-equipped hospitals and sophisticated medicine) is being maintained in the face of increasing demand. While the existing infrastructure reaches down to the village, the interface between health services and clients, remains as weak as the vertical link between "bare foot cadres and the medical professionals". The depression of demand for health services as a consequence of discrimination within the family (Chapter 5), adds to the problem of unequal access to even available services. The implementation of primary health care is thus dependent on the linkages between health delivery system, social organization and technologies.

Education System

7.144. An idea of the learning needs and opportunities through the life cycle was provided in Chapters 1 and 5. This section looks at the facilities available to translate concept into practice.

7.145 *Early Childhood Care and Education:* The nature and extent of disadvantage to a young child on account of poverty are not confined to under-nutrition and ill-health but also to a concurrent deficit in terms of emotional condition and cognitive and linguistic development. As noted in Part I, most families are unable to provide an adequate environment for the child to develop his or her full potential during a period of high susceptibility. This situation has a direct bearing on the child's likelihood of profiting by school education. Against this background, there has been a policy interest, even before the coming of Independence, in promoting a network of institutions offering pre-school programmes of local relevance. There has also been a broad agreement that such programmes should be many-sided and well-integrated, to meet all the needs of the child and to the maximum extent possible, include the strengthening of the capacity of families in poverty to follow up in the home.

7.146 In the first five year plan, the need for early childhood care and pre-school education was recognized but without any specific schemes. In the third plan, 1960-65, training centres for childcare workers (balsevikas), improvement of childcare centres (balwadis) and opening of new ones and pilot projects for integrated services were taken up. Possibilities of production and supply of educational equipment and toys were pursued. Concern for the pre-school child led to certain pointers for action: integrated services combining education, health and nutrition; special attention to children of vulnerable groups; mobilizing community support and environment employing local women and students; full use of existing institutions and facilities; not the least, adoption of a variety of models—day-care centres, half-day balwadis, rural anganwadis and centres based in primary schools. Nearly two decades

TABLE 7.16

Intra-sectoral allocation of health plan funds (Rs. million)

| | I 1951-56 | II 1956-61 | III 1961-66 | — 1966-69 | IV 1969-74 | V 1974-79 | VI 1980-85 | I-VI 1951-85 |
|---|----------------|-----------------|----------------|----------------|-----------------|-----------------|------------------|------------------|
| Hospitals, Dispensaries and Primary Health Centres | 25 | 36 | 37 | 25 | 88.3 | 155.3 | 720.1* (10.7) | 1086.7 (9.8) |
| Control of Communicable Diseases | 23.1 | 64 | 69 | 23.1 (7.8) | 127 (9.0) | 168.6 | 524 | 998.8 |
| Education and Training | 21.6 | 36 | 35 | 21.6 | 98.2 | 111.8 | — | 324.2 (2.9) |
| Indigenous Systems of Medicine | 0.4 | 4.0 | 4 | 4 | 15.8 | 28.1 | — | 56.3 (0.5) |
| Minimum Needs Programme | — | — | — | — | 76.5 | 291.5 | 577 (8.6) | 946.0 (8.5) |
| Other | 20.2 | 6.0 | 5 | 20.2 | 27.7 | 40.9 | — | 120.0 (1.1) |
| Total Health | 90.3 (64.5) | 146.0 (64.9) | 150 (60.2) | 93.9 (41.6) | 433.5 (37.5) | 796.2 (34.1) | 1821.1 (27.0) | 3532.0 (31.9) |
| Family Welfare | 0.7 (0.5) | 3.0 (1.3) | 27 (10.8) | 82.9 (36.7) | 315 (27.3) | 516 (22.1) | 1010 (15.0) | 1954.6 (17.6) |
| Water Supply and Sanitation | 49 (35.0) | 76 (33.8) | 72 (28.9) | 49.0 (21.7) | 407 (35.2) | 1022 (43.8) | 3922 (58.0) | 5597.0 (50.5) |
| Total: Health + Family Welfare + Water Supply & Sanitation | 140 (100) | 225 (100) | 249 (100) | 225.8 (100) | 1155.5 (100) | 2334.2 (100) | 6753 (100) | 11083.6 (100) |

Notes: Figures in brackets are percent of total plan allocation to health, in that sub-sector.
*This figure includes allocation to three other sub-sectors

later, these principles remain valid, but are implemented only partly, with only one child reached out of 10, in the 2-6 year age-

TABLE 7.17 Children in preschools

| | Centres | Children (million) |
|----------------------------------|---------|-----------------------|
| ICDS pre-school component | 188,000 | 6.10 |
| Balwadis | 5,000 | 0.29 |
| Creches | 11,300 | 0.28 |
| Early childhood learning centres | 4,500 | 1.27 |
| Others | 0.06 | 8.00 |

group. The compensatory value of social intervention by way of organized community level services is undisputed for children from poor communities, while its developmental contribution applies across economic classes. In realising the potential of pre-school education, with health and nutrition support as an upward leveller in an unequal society, only a beginning has been made.

7.147 The total coverage by a variety of early childhood care and learning centres in the country, is estimated as below, as in early 1989.

7.148 The existing centres for the young child can be broadly grouped into three:

nurseries for the upper income group which are city-based, Westernised, expensive and exclusive; nurseries for the middle and lower income group which are run commercially by persons with uneven training, bare facilities and a heavy formal learning content. These serve mainly as a feeder to the primary level in private schools where admissions are becoming needlessly competitive and tuition and allied fees are steadily rising. The third variety of pre-schools is meant for the children of the poor, conducted as part of ICDS in rural areas and low-income urban areas, creches in the industrial sector run as a statutory obligation, or as an extension to municipal schools in towns, or run by voluntary groups as developmental schemes which include innovative child-to-child and home-based programmes.

7.149 Traditionally, early learning outside the home environment was left to the care of voluntary initiatives. ICDS is the first serious expression of a policy commitment to improve the care of children, who are doubly vulnerable on account of their tender age and their family context of material poverty. Conceptually, the scheme is holistic and brings together health, nutrition and learning opportunity. Not all centres have this last element, nutritional support being the dominant feature. ICDS is intended to draw upon the resources of the Centre, the States, voluntary organizations and, not the least, the informed and active involvement of the communities themselves. On an average, it is expected to provide pre-school education in a non-formal setting for about three hours a day. The main objective is to stimulate and satisfy the curiosity of the child, rather than follow a rigid learning curriculum. Children are taught songs and games. Toys are produced from locally available inexpensive materials. Flexibility of approach is encouraged in keeping with the local environment. Small-scale evaluations suggest a gradual change with ICDS children doing better than non-ICDS counterparts -- in primary school enrolment and performance.

7.150 One of the aims of ICDS is to break the isolation of areas predominantly inhabited by the scheduled tribes and castes,

economically weak areas, drought prone and nutritionally deprived regions, areas poorly served by social services and the urban slums. This is linked to the quality of service which leaves scope for improvement. For instance, evaluations have noted that usually children come to the ICDS anganwadi mainly for the food, not all of them stay on for the pre-school programme, the anganwadis are not adequately equipped with teaching aids and play materials and the anganwadi worker herself needs to be trained better. This situation, together with the reported wide variations as between anganwadi centres in the availability and quality of supplementary nutrition and health care, points to the need for major improvement in terms of management and accountability. In this respect, there is much to be learned from vibrant examples of voluntary endeavour.

7.151 Two such examples from the voluntary sector reflect the spirit behind several small but promising ventures across the country. The Vikaswadi model in Kosbad (Maharashtra) caters to the tribal population. It is an open learning centre based on enthusiastic involvement of the adult community in the running of a creche, a balwadi, a primary school, a vocational training centre with workshop facilities and a centre for extending practical knowledge to the neighbourhood community. This inter-linked, spatially contiguous and locally-relevant model has, over the past years, proved its viability. Another notable example of an integrated programme for urban areas is the Mobile Creche. It includes not only creches for the 0-2 year group but also balwadis for the 3-5 group and non-formal learning opportunities for those between 6 and 14 years. The scheme is intended for, and availed of by working women in urban slums and construction workers in parts of Delhi, Bombay and Pune.

7.152 Recent surveys (coordinated by the Centre for Women's Development Studies) have helped to understand the state of child care, and of related facilities, particularly in relation to women workers in different states. Apart from the organized sector which has a statutory obligation to provide child care facilities for women employees,

there is hardly an attempt to meet the needs, necessarily at the community level, of tens of millions of women workers in the informal sector of the economy except for a few small examples of the women themselves getting together and organizing the facilities with the help of devoted child care workers and sensitive voluntary groups.

7.153 Certain aspects of the widespread lack of care and learning facilities emerge: Even where 'care' is recognized as a right of the child and the 'facility' as a right of the woman worker, the fulfilment of the right remains distant. While the situation in the organized sector—the factory, mine and plantation—is better, the quality of the service, is highly uneven, with not much thought given to see things through the eyes of the child. The lower the age of the child—in the 2-6 year range—the lesser the adult perception of the child's simple but multiple needs and their satisfaction. Rather, in many cases, what started as a creche has graduated into a 'pre-school' in explicit preparation for the primary stage and to the detriment of the original concern.

7.154 Among the positive aspects of this scene are the relative progress made by states such as Tamil Nadu (which reportedly accounts for some two-fifths of the child care workers in India) and Kerala (where a spontaneous and well organized state-wide effort of village women in organized groups in support of themselves and their young children has had its ups and downs but still quite alive in the face of unexpected odds: The Composite Programme for Women and Pre-school Children - (CPWPC). Also, across the states, there are examples of voluntary and community effort at integrated 'balwadi' schemes, close to the home, for the 2-4 age group which are much more than feeding centres.

7.155 The absence of reliable, upto-date information on pre-school enrolment and attendance is evidence that the concept of 'pre-school' remains avoidably ambivalent and the movement is still to take off on a truly national scale. There are wide variations in strength as between States. On available information, the growth of pre-primary centres, beyond ICDS, appear to be relatively faster in Karnataka,

Maharashtra, Gujarat and Rajasthan but rather subdued in Tamil Nadu and Andhra Pradesh.

7.156 Meanwhile, the total number of ICDS projects has expanded rapidly from over 100,000 anganwadis in 1985 to over 200,000 by the beginning of 1990. The number of children 0-6 years, of whom the majority are in the age-group 3-5 years, has correspondingly increased from about 6 million to over 12 million; and the number of pregnant and nursing mothers from 1.2 million to some 2.2 million over this period. Most of the ICDS centres are in the rural areas, but there is a growing number of urban centres as well.

7.157 The nature of urban growth was noted in Chapter 6 and requires a contextual response distinct from that in rural areas. Some 15 million or more children in the urban slums not only face systemic obstacles to survival and development but also neglect, abandonment, deviancy and destitution on a scale unknown in the rural interior. Physical crowding and social alienation feed on each other. In the national search for alternative approaches to the massive consequences of urban poverty, the Urban Basic Services (UBS) strategy has made a contribution. The experience of working it in several cities, particularly in Andhra Pradesh, Orissa, Gujarat, Madhya Pradesh and Delhi confirms the validity of strategic elements such as: group organization, community partnership, inter-related services and a district based approach to planning. Within such a framework, it has been found possible to achieve a mother-and-child focus. The activities include, among other preventive health care and nutrition education, especially for children and pregnant mothers; creche and balwadis for the young child. Building upon previous experience in pilot schemes in urban community development in a few cities, slums in some 118 towns have been reached during 1986-89 with a cadre of over 25,000 resident community volunteers, all of them women and most of them trained.

7.158 Both ICDS and UBS are slated for expansion to universal coverage in the next few years, the pace of which will put a strain on organizational capacity and service quality. Precisely for this reason, there is a

case for decentralized and coordinated management with maximum involvement of the local community. Consistent with accepted principles, there is a need to make ICDS anganwadis, balwadis and other pre-school centres more holistic in approach. Experiential lessons provide several other points for the future: For reasons of efficiency, major participation by voluntary sector would be useful. Involvement of, and accountability to the local community appear essential. The use of mass media to create awareness about significance of early childhood care and practical ways of promoting child development, supported by demonstrated results, could promote the present low level of participation. Home-based models for 0-3 years, pre-school for 3-5 years and primary schools could establish viable linkages through Child-to-child programmes. Wherever possible, the pre-school (including the ICDS anganwadi) could be brought closer to the primary school, physically and functionally. Training programmes for pre-school teachers and workers could promote the value of gender equality, as distinct from the familiar gender-neutral approach.

7.159 *Primary Education:* The directive in the Indian Constitution to provide free compulsory elementary education to all children up to the age of 14 years has not been fulfilled so far because of the failure of the school system to enrol, retain and help develop the potential of children, especially girls, from the disadvantaged segments of the population. See Chapter 5. This situation is related to three essential precautions: good teachers, relevant content and appropriate facilities. While all these are crucial, the quality and commitment of the teacher is decisive as brought out by the Report of the National Commission on Teachers (1983-85).

7.160 There is evidently a shortage of schools. There are about 529400 primary schools and 138700 upper primary schools for the 578600 odd villages. For each village to have at least one school up to the middle level, an additional 50,000 primary schools and 440,000 upper primary schools (or sections) are necessary. If the criterion of a school within a kilometre is applied, a primary school is available to 94 percent of

the rural population, but an upper primary school only to 54 percent. It will be unrealistic to expect young rural girls from poor families to walk long distances between home and school. Achieving universal education up to the elementary or even to the primary level calls for not only higher levels of investment but also making each village a unit of educational planning and entrusting local communities with the essentials of school management, with the government discharging a supportive, advisory and regulatory functions, mainly to achieve and maintain standards.

7.161 At the primary level, teachers' salaries absorb 90-95 percent of the total expenditure. This does not however ensure that an adequate number of motivated and trained teachers are uniformly in position. According to the 1986 Education survey, nearly 28 percent of primary schools had only one teacher, and 32 percent two teachers. The proportion of single teacher schools was more than half in Karnataka, Rajasthan, Jammu and Kashmir, Meghalaya and Arunachal Pradesh. The proportion of untrained teachers was relatively higher in the north-eastern states, between 40 and 60 percent at the primary level. For the country, the proportion of women teachers was only 30-32 percent at the primary and upper primary levels. The pupil-teacher ratio at the primary level was 44 and at the pre-primary level 29.

7.162 A major factor which depresses the quality of the teacher is the highly variable professional standards, aimed and achieved, by the 1200 odd elementary teacher training institutions in and outside the government sector. As a result, even when physical facilities (as in the 'Operation Blackboard') are provided and the curriculum is improved to reflect socially realistic images of life and the skills needed for living (as has been done on the initiative of the West Bengal government), it still takes a good teacher to put these gains to actual use.

7.163 Attempts to modernise curriculum and instruction at the primary level will demand that the present programmes of teacher education be substantially improved. Pre-service teacher education for the primary level is usually taken after high

school or higher secondary examination. According to the National Commission on Teachers its duration varies from one to two years: In 8 states: one year course after Grade Ten; In 13 other states: two years course after Grade Ten; In another 7 states: two years course after Grade Twelve.

7.164 Since elementary level training does not constitute a degree programme, there has been no involvement of universities in this area. One consequence of this is the rather thin academic quality of the concept of education imparted to trainees. Another consequence is the poor quality theoretical base of the skill taught to trainees. These negative features of the system are compounded by the fact that the minimum eligibility for primary teacher training is high school or higher secondary certificate. Trainees who come with this qualification cannot grasp in a one or two year course the psychological and sociological issues involved in primary education even if these issues were to be substantively featured in the training courses.

7.165 A longer programme, recommended by the Teacher Commission, would be useful, provided it is also an academically better-informed programme. Indeed, the theory and the teaching skills taught in most primary teachers' training institutions are little different from what were taught at the beginning of this century. Many aspects of India's failure to achieve effective universalisation of primary education are related to the poor development of teacher training institutions. A model permitting fresh inputs to be made in the life of training institutions is yet to be developed.

7.166 Physical facilities in the 'average' primary school remain poor. The quality of school buildings is extremely uneven, the neglect being greater at the primary level. Some 7 percent of primary schools are conducted in open space, 0.5 percent in tents, 6 percent in thatched huts, over 16 percent in semi-permanent buildings and about 56 percent in proper buildings in whatever state of repair. At the upper primary stage, some 69 percent have proper buildings. The state of school buildings is the worst in the hill States of the north and north-east where the school drop-out rates are also high. It is seen that states with better main-

tained primary schools are the ones with higher rates of literacy. Physical conditions of primary schools have to improve drastically, particularly in the educationally backward states of Bihar, Madhya Pradesh, Orissa and Uttar Pradesh.

7.167 Only 34 percent of primary schools have playgrounds; at the upper primary level the proportion is somewhat better at 46 percent. Opportunities are thus missed by a majority of children for building physical fitness, team work and character, through play. Most schools lacked ancillary facilities: only 46 percent of primary schools had drinking water, 15 percent urinals and 6 percent lavatories. Less than 5 percent schools had separate urinals for girls and less than 3 percent separate lavatories for them. The position is better, but far from adequate at the upper primary stage.

7.168 Incentives are available in some places such as free meals, uniforms and free textbooks. In 1986-87, 15 percent primary and 26 percent upper primary classes were receiving a free noon meal; the corresponding proportions getting free uniforms were 12 percent and 34 percent; those getting free textbooks were 23 percent and 51 percent. If the concept of free education is extended beyond the tuition fee, to essential supportive facilities as well, higher investment in this sector would be necessary and justified. The mid-day meal scheme in Tamil Nadu appears to have improved enrolment and to a lesser extent retention at school.

7.169 There is a general observation that the poor attend inferior schools. There are relatively neglected aspects of the school system which, if promoted, will have a tremendous potential in making the school more attractive to children and parents, and more productive of durable results. Hope for positive change is justified by initiatives being taken, albeit modestly, not only in the elite schools but across the spectrum, in the promotion of physical fitness and sports, school-meal, school-health and school-sanitation programmes, the linking of learning with social regeneration in the neighbourhood, and giving the school a community focus associating local citizens with the running of the school.

7.170 The efficiency of the primary school has a bearing on the type of management. As seen from the diagram (Page 9), the pattern varies from state to state. While government-run schools predominate in many states, schools run by local bodies (the panchayats for example) form a majority in Rajasthan, Orissa, Gujarat, Maharashtra, Uttar Pradesh and West Bengal. While generalisations may be misleading, investigations have shown that the aim of increasing people's participation in the running of primary schools may not have been achieved merely by entrusting them to elected local government bodies. Recent proposals include village level committees (of women, for example) being associated with school management. Irrespective of the type of management, the state governments retain the responsibility to ensure academic standards.

7.171 Experience shows that the problems of efficiency at the primary level would not be entirely solved by creating additional schools and class rooms, supplying teaching and learning materials or even by appointing more trained teachers. For instance, there remain serious problems, both in rural and urban areas of teachers drawing salary, yet absenting themselves; and not teaching even if they attended. While teachers were being made more professional through training, they needed to be motivated to stay on in the village in order to do justice to their work. There are also social problems related to feudal and social prejudice against education, especially of girls. For this, channelling of resources by itself would not be sufficient, more so on account of chances of their miscarriage. The cost of delivery of services has been rising. As noted, much of the expenditure on primary education goes as teachers' salary. Trade unionism among teachers has been spreading, for example, to ICDS anganwadi workers, whose numerical strength runs to six digits. Even part-time teachers in non-formal education aspire to pay scales applicable to fully trained full-time teachers, on grounds of equality. In effect, for the same output, the system seems to be paying more.

7.172 Problems of an academic nature persist. While production and innovation of

teaching-learning materials do not present insurmountable problems, their meaningful dissemination in a country with 16 major languages faces operational hurdles. The existence of good materials is not widely known to prospective users. And some basic minimum standards have to be maintained even at some cost of perfection.

7.173 Presently, the school curriculum is geared at best to the tertiary sector of the economy, being conceived mainly as a preparatory stage for higher education. For instance, the curriculum does not cater to those for whom the primary or upper primary level may perforce be the terminal point for formal education. Partly for this reason, it is too academic in the sense that 'human development' priorities – which are the function of education – tend to be neglected. Socially sensitive images of the life of the poor are often not reflected. The element of preparation for entering the world of work is feeble and there is little guidance for life in the family, and for responsible parenthood in particular. The scope for using local resources for improving curricula is only beginning to be recognized in practical terms. As noted earlier, physical fitness and aesthetics are neglected by and large. While the curriculum appears holistic on paper, uneven standards of teachers and equipment erode practical content across economic classes and the rural-urban divide. At the secondary stage, not more than 10 percent branch off to the vocational stream and a similar proportion to higher education, leaving out some 80 percent inadequately equipped to enter adult life.

7.174 Also curricula reflect, at present, obsolete stereotypes of division of labour between the sexes. There is a special need to make conscious interventions in teacher education and curriculum changes to promote the value of equality of boys and girls and to create conditions in which both are able to derive the full benefit of education.

7.175 Instruction in Indian primary schools mainly follows an 'academic' kind of programme. One important aspect of this programme is the predominance of verbal or symbolic activity or the absence of manual activity. Language, science, arith-

DIAGRAM 2.6

Primary school by management, 1986

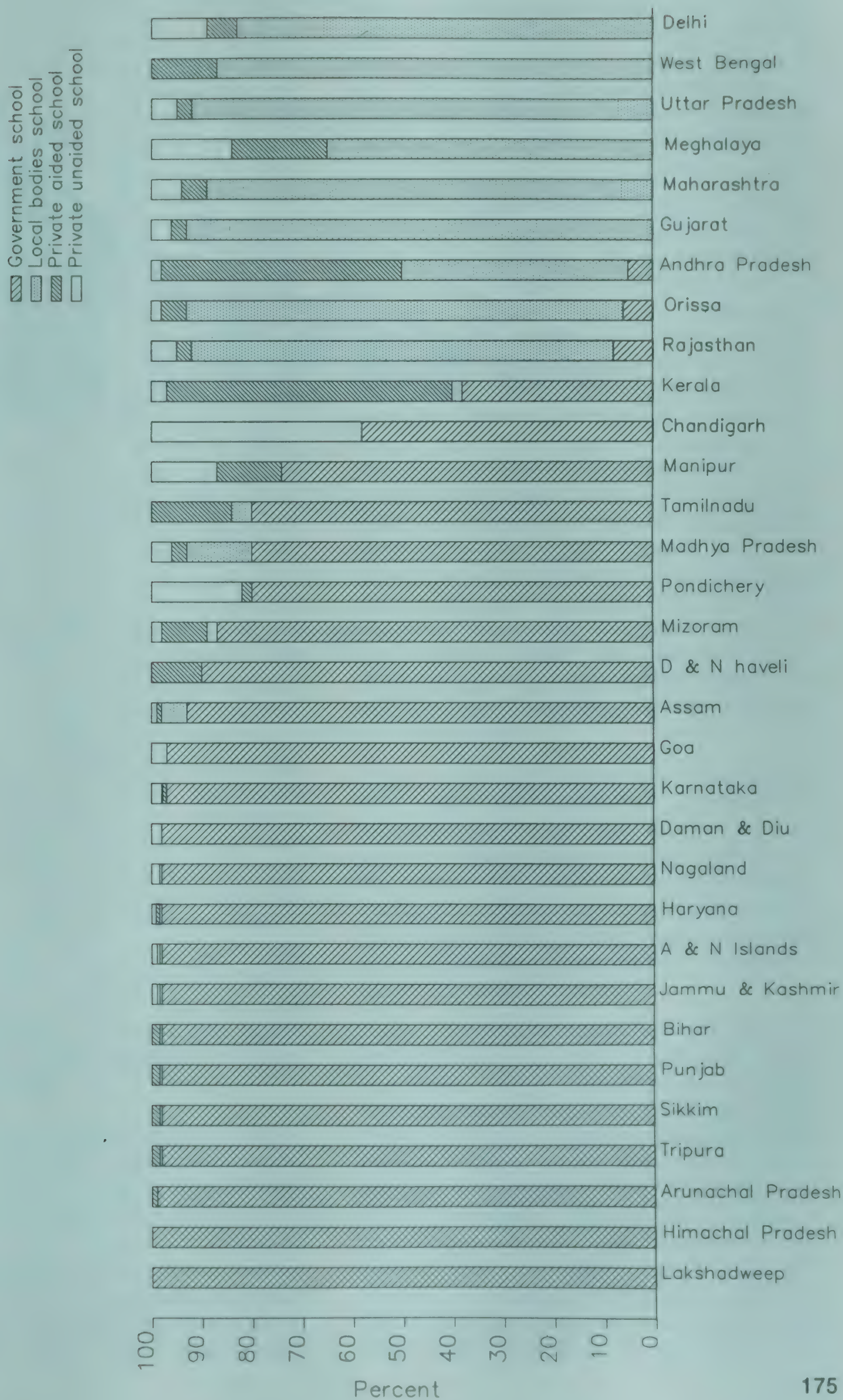


DIAGRAM 7.7

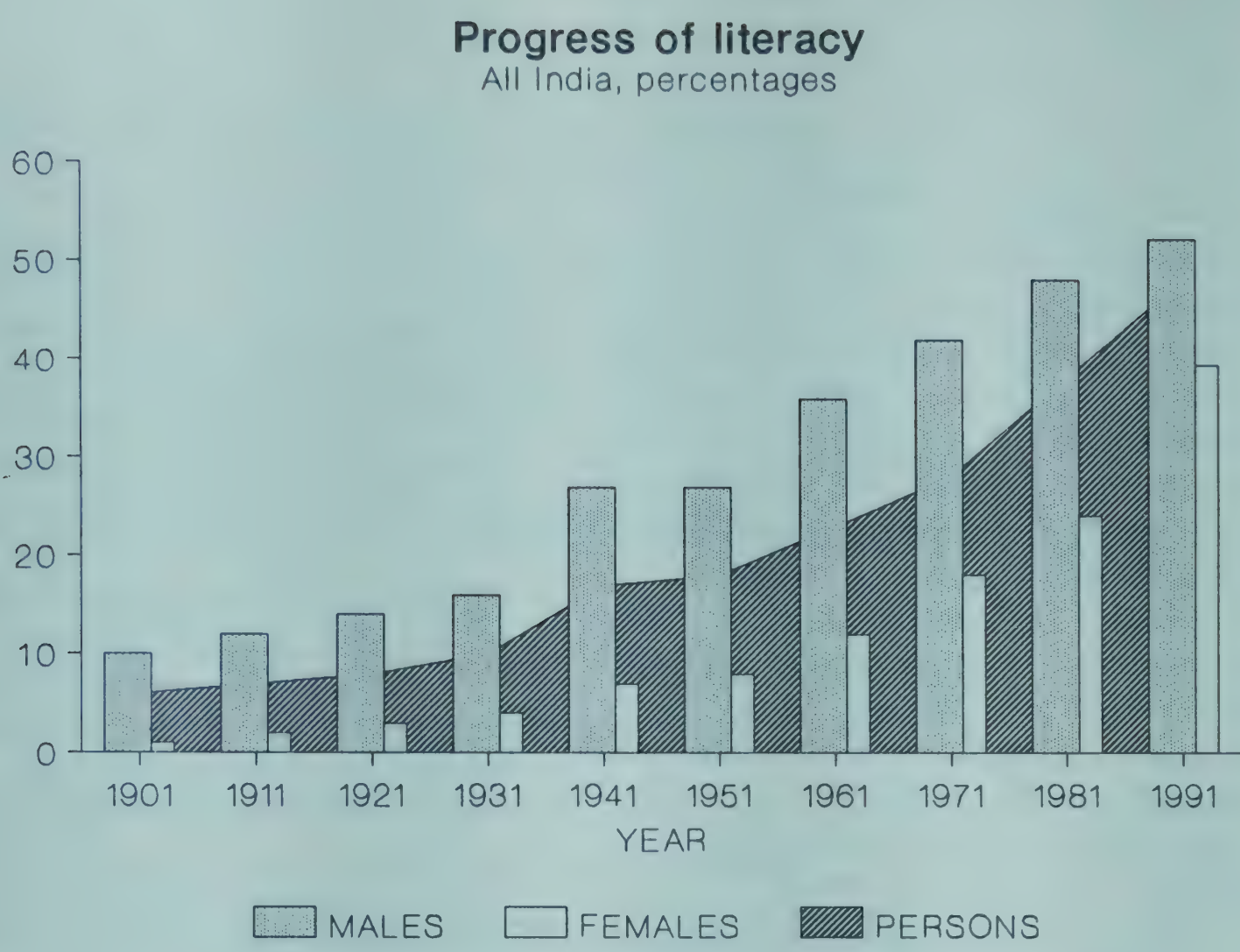
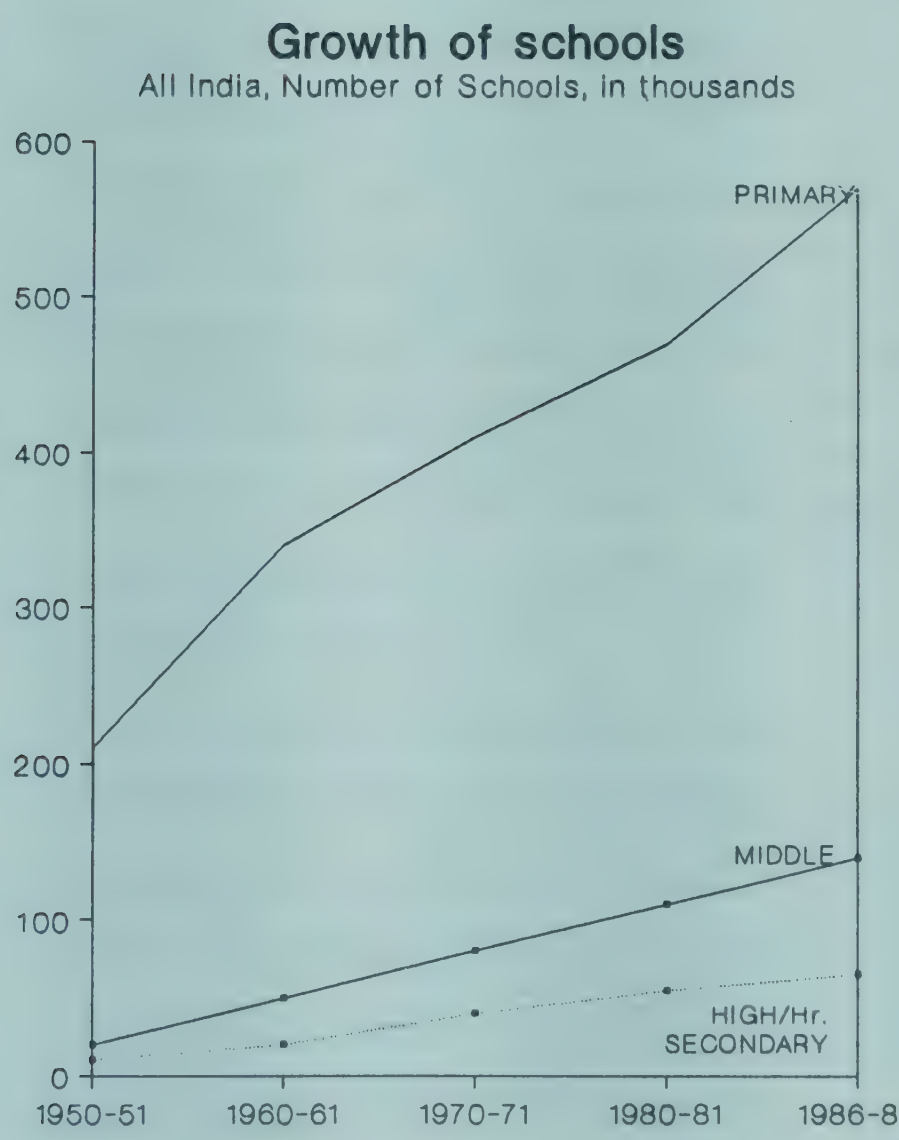


DIAGRAM 7.8



metic and social studies are all taught without the requirement that children will directly contact or reflect on material objects. It is assumed that primary school children can learn new ideas and information verbally, that at best they need pictures of objects. This assumption can be seen working even in newly produced instructional materials. A common belief among teachers is that textbooks are the only valid resource for instruction. The absence of curriculum guidelines, and the inaccessibility of the official syllabus which nominally outlines objectives, make the textbook the de facto curriculum. In the average primary school, the textbook is read both by the teacher and the children, silently and aloud, over and over again, until its content is memorised. It is then regarded as having been learnt.

7.176 The curriculum is not child-centered. Attempts to make it so have been made in limited pockets. One of the common reasons of failure of such attempts has been the inadequate acceptance of the teachers' freedom to organize the daily curriculum. Another reason has been the poor quality of instructional materials and the insufficient understanding of the idea that real life objects are by themselves instructional material for primary level children. One exception in this context was 'basic' education, the programme inspired by Gandhi's idea of giving manual, productive crafts a dominant place in the curriculum. Gandhi's proposal showed a spectacular way for modernisation of primary education in the context of radical change in socialisation and value-orientation. Although 'basic' education is generally deemed as having 'failed', it presents a very attractive model worth revisiting. At any rate, no new models, combining an acceptable social objective with modern concepts of pedagogy have come up.

7.177 The 'academic' curriculum offered in Indian primary schools has little social relevance or direction. None of the major issues concerning human survival and happiness figures in the classroom except as isolated chapters or didactic statements in the textbook. Common problems of health and knowledge of one's environment take a purely verbal form which discourages

children from studying anything with a sense of focus and urgency. Also, problems are never allowed to find a local formulation, even water-scarcity remains a national issue, as does malaria and deforestation. It would be hard to find a primary school – where children may be studying with the help of plants inside classrooms or the school – the time it takes for injured or malnourished vegetation to recuperate.

7.178 In the area of literacy, the primary school curriculum is structured around the conventional approaches to the skills of reading and writing. These conventional approaches emphasize the mastery of a series of isolated tasks as preparatory steps towards reading and writing. Recognizing individual letters, copying their shapes, and uttering the sound associated with each letter are examples of the tasks which the conventional pedagogy of literacy presents in isolation from any meaningful context. This kind of pedagogy does not encourage the child to perceive reading as the ability to make sense of texts. Even when the ability to read is acquired through this approach, the ability does not necessarily impart the desire to read. This is a major weakness of the conventional approach, but in the Indian context the cost of retaining old methods may be even higher.

7.179 *Secondary Education:* At the secondary stage, the number of schools have increased from over 7000 in 1955 to over 52000 by 1986, the total enrolment increasing to some 1.15 million of which 31 percent were girls. At the higher secondary level, the corresponding figures were over 15000 schools enrolling 0.34 million children, of whom 30 percent were girls.

7.180 Access to secondary education is limited to only 20 out of 100 girls in the age-group 14-18, compared to 40 boys. Girls are behind not only in numbers but in the type and quality of education they receive, which limits their occupational choices and chances. Only 46 percent of higher secondary schools are located in rural areas where three-quarters of the people live. In tribal, desert and hilly regions, secondary schools do not exist within a distance of 10 to 20 kilometres. The recommendation of the Education

Commission in the mid-1960's that 50 per cent of the students be diverted to vocational education, is far from met. In 1986-87, there were a total of 126,500 students enrolled in around 160 different vocational courses (in agriculture, business and commerce, engineering and technology, health and para-medical services, home science and others). Of them, 46,000 were girls. For more than two decades, girls have not increased their 15 percent representation in second level vocational and technical education. Secondary and higher education of girls continues to be an urban middle class phenomenon, by and large.

7.181 Non-formal Education: Given the low enrolment and heavy drop-out in rural and tribal areas, particularly of girls, measures are necessary to prevent this from happening as well as to attend to the needs of those out of school. The number of non-formal education centres has risen from over 28,000 in 1979-80 to 241,000 in 1988-89. While girls form more than two-thirds of children not enrolled at formal schools, they form only 43 percent of non-formal enrolment, as of 1986-87. Most of the non-formal centres are in rural areas, meant to cater to the age-group 9-14 years, who drop out from the primary and upper primary levels. However, a girl or boy who has not got into school, can attend non-formal classes even from the age of six years. There are models which respond to the neglect of the 3-5 year group as well and consider the non-formal route as a continuum from the age of 3 upwards, in terms of enrolment, retention and achievement -- with the option open to join the formal stream, as and when eligible. Among the non-formal centres, there are some ex-

clusively for girls; their number increased from over 20,000 in 1984 to more than 70,000 in 1988.

7.182 How is 'non-formal' education different from the formal? Some insights are available from the experience of village level projects organized by the Indian Institute of Education in Maharashtra. Evening classes are held for out of school girls and boys using whatever space available -- a temple verandah, a class room after the school hours, wherever. The teacher could be a farmer by day but a holder of a school-leaving certificate. The children come because they want to learn and their relationship with the teacher is personal, transcending the teacher-pupil barrier. They make a contribution which goes to compensate his effort. He carries some teaching aids in his bag prepared at the teacher-training workshop. And the children do not take home the primers for reading. In fact, they do some work during day--minding cows, channelling water, helping in the kitchen. The teaching-learning methods used attempt to apply in a simple and direct manner, and are what should be expected in any good primary school. The materials and methods are standard--alphabet cards, flash cards, number counters, primer, role-playing, songs, dramatization, art work and the like. The striking departure is not the technique, but to see conventional procedures being applied in an uncommon way--by lantern light at night by emphathetic teachers who by usual standards would have no qualifications for what they are doing. But supporting the enterprise is careful planning, teacher training, material development, intensive supervision and formative evaluation.

7.183 Adult education: In the age-group 15 to 35, the number of illiterate persons is estimated to be about 110 million. The emphasis on higher participation in primary education is expected to help prevent additions to this number. And, the backlog is sought to be reduced through literacy programmes strengthened by the public education system, public libraries, communication media and other channels. There is the concurrent aim to ensure minimum levels of learning in terms of literacy

TABLE 7.18

Adult literacy (age groups 15 plus, in million)

| Total Year | adult popula- tion | Illite- rate adults | Percen- tage Illiterate |
|---------------|--------------------------|---------------------------|-------------------------------|
| 1951 | 215 | 173 | 80.70 |
| 1961 | 258 | 187 | 72.20 |
| 1971 | 317 | 209 | 65.80 |
| 1981 | 414 | 245 | 59.24 |

and numeracy, as determined by the National Literacy Mission. Also the rate of literacy will be reckoned for the population from the 6th year of life, unlike the current practice of covering all ages including the 0-6 year group. While the 6-14 age group is being provided with regular education, the focus of the Literacy Mission is 15-35 age group, with priority to women's literacy. Three approaches are pursued: centre-based, volunteer-based and campaign approach.

7.184 There are presently about 300,000 state-supported adult education centres, another 30,000 conducted by voluntary agencies and 15,000 run by Nehru Yuvak kendras. This number is being increased, partly by linking up with the KDS centres.

7.185 In the volunteer-based approach, some 300,000 students are engaged in literacy work as part of the National Service Scheme and also outside it. Efforts are being made to translate into organized effort, the willingness of school teachers to take up literacy work on a voluntary basis.

7.186 The campaign approach to literacy promotion received a fillip from recent successes in achieving 100 percent literacy in a district in Kerala, with similar efforts starting in the other districts of the state and in parts of Karnataka, Tamil Nadu and elsewhere. Initiatives in this regard are being taken in educationally backward states including Bihar and Rajasthan. The main strategy consists of groups being formed in each district of educators, activists and artistes, who would reach out to many centres mobilizing the means of literacy and carrying the message to the surrounding villages.

7.187 In order to motivate women in literacy programmes, an income generating activity is commonly introduced as an adjunct. Studies on such combined activities show that most of these programmes, run either by the state or by voluntary organization, are focused on mother-child health, nutrition, food preservation, cooking, sewing, handicraft and similar traditionally feminine activities. These do not seem to generate much income. While teaching of literacy is intended to be one of the components, in reality, it easily gets over-

shadowed by all the other time consuming activities. In the result, it could happen that women neither manage to generate income nor become literate. The irrelevance of literacy primers and inappropriateness of teaching methods add another dimension to this problem.

7.188 A successful programme in literacy or health or productive work is necessarily one that goes beyond any one of these. A variety of factors can be identified from experience wherever sustainable results have been achieved by women: Among these are women's access to and progressive control over the productive resources of land, labour, capital, technology, and marketing; control by women over the product of their labour; the development or strengthening of an organizational base for disadvantaged women and trained cadres from among them and local voluntary groups – in order to strengthen the social as well as economic factors of development; a positive and supportive attitude by the community including the husband and other external forces such as the government or at least some individuals within it. In this context, it is critical that the struggle for equality of women is consciously made part of a larger effort against the existing socio-political structures that maintain inequalities of many kinds, of which gender disparity is a self-perpetuating example.

7.189 *Public Expenditure on education:* The total public expenditure in education increased from 1.2 percent of the gross national product in 1950-51 to about 4 percent in 1986-87 against an optimal target level of 6 percent. During this period, the share of elementary education increased from 0.48 percent of the GNP to 1.7 percent.

7.190 The investment in education under the five year plans presents a somewhat different picture. The plan outlays are used for further development of education, the substantially larger 'non-plan' expenditure being meant for maintenance of the system. The share of education as a proportion of plan outlay in the public sector has shown a declining trend through the plan periods. And within education, the share of elementary education (primary and upper primary) has been falling—from 56 percent in the first five year plan to 29 percent in the

seventh plan. There are indications, as noted in Chapter 5, that it is higher education that benefited at the cost of primary education. Also, much of the growth in expenditure had been off-set by increase in prices as well as in the student population, affecting educational inputs quantitatively and qualitatively. As of 1986-87, the per capita expenditure on education ranged from Rupees 352 in Sikkim and Rupees 180 in Kerala to Rupees 72 in Uttar Pradesh and Rupees 63 in Bihar, reflective of both priorities and performance. This points to the need for stepping up the resources for elementary, non-formal and adult education, as a matter of Constitutional obligation. Assuming that 70 percent of the 6-14 age group will be provided education through the formal system and 30 percent catered for through non-formal channels, the annual cost for universal elementary education has been estimated at Rs.103 bn and Rs.52.6 bn by the year 2000.

Communication Network

7.191 If development is about human beings, the process of moving towards it is necessarily participatory. And communication is the means to make this happen. Today, India has one of the largest functioning communications networks in the world. There is therefore an unprecedented opportunity of using it for widening the social base of awakened and self-motivated people who will be capable of managing their own lives and also contributing to the common good. This aim is not new and was articulated even in the first five year plan forty years ago. The story of communication since then, shows some significant trends and lessons: First, the communication facilities have steadily increased in the modern sector, dramatically so during the 1980s. At the same time, traditional modes like inter-personal communication and folk media have remained at a relatively subdued level. Second, despite the impressive expansion of modern communications infrastructure, the development process which it was expected to stimulate through wider and more meaningful participation, has not commensurately progressed. Rather, disparities have come into sharper focus over this period – not just due to the doubling of the population since 1950; for

the population increase is not only the cause but also a consequence of under-development, as noted in Chapter 7. In fact, there has been serious rethinking, in light of experience, of some of the earlier assumptions about the concept and practice of "development communication". India, like most developing countries, did not experience the social transformation as a result of mass communication, at any rate to the extent expected. These aspects are inter-related and briefly discussed below.

7.192 The most visible dimension of the communication spurt has been in facilities for television broadcasting. Backed by production technology fairly quickly absorbed by the country, several hundred transmitters can in a technical sense, reach about 90 percent of the country. However, only relatively few centres have television programme production facilities. The number of television sets in the country is estimated at around 10 million, a level which is expected to rise by 3 million annually. Most of the television sets are in the metropolitan cities and larger towns. Community sets have been provided by the government in villages and tribal areas, over 22,000 of them as of 1987. It is estimated that there are about a million videos in the country. The video has found a place in the small town restaurant, the long-route bus and even in some remote villages, mainly for entertainment.

7.193 Radio is, by far, the more extensive network. Technically, the signals cover almost the whole country. At the same time, on the average, there are only 4-5 radio/transistor sets per 100 persons. And, of the estimated 30 million radio sets in the country, 80 percent are in the urban homes, leaving only about 6 million sets for over 600 million people in the rural areas.

7.194 India is the largest producer of feature films, over 900 annually; the subject and treatment in most of them are rather removed from social reality. The cinema houses in the country are limited in number, about 11,200 with approximately 1.15 million seats; this works out at 7-8 seats for a thousand population. Again, most cinema houses are in cities and large towns.

7.195 According to official statistics, there were, in 1986, over 23,000 journals and

newspapers, over 1900 of them dailies. Newspapers are brought out in some 19 principal and over 70 other languages, with a total circulation of around 64 million copies. Over 93 percent of the total sales of daily newspapers is in towns with a population of 100,000 or more. Barring exceptions, serious journalism devoted to analysis and understanding of the human condition and of deeper developmental concerns is at some disadvantage with most readers accustomed to lighter topics and entertaining discussion.

7.196 Book publishing continues to be a solid foundation for the education and communication processes. According to information received at the national libraries statutorily designated to receive new publications, the number of titles published during the 1980s was around 16,000 a year. Around 40 percent of book publishing is in the government sector. In terms of the print-run, school text books lead among the various categories produced mostly under government auspices. Children's books are a category promoted both by the public and private sectors. Producing attractive books at affordable prices remains a problem, more so in this category.

7.197 In terms of language of publication, English has the largest share of the titles produced (31 percent), followed by Hindi (16 percent), Bengali (10 percent), Tamil (8.5 percent) and Marathi (7 percent). The proportion of English books may reduce in favour of Indian languages but a decline in absolute terms is unlikely. The regional dispersion of publishing is uneven with Delhi accounting for a quarter of the total number of titles published. The other states leading in book production are West Bengal, Maharashtra, Tamil Nadu, Uttar Pradesh, Kerala and Karnataka in that order, each with more than a thousand titles. Among the larger states, Bihar and Madhya Pradesh contribute 200 to 250 titles a year. The subject classification shows that among a variety of disciplines, literature shares more than a third of the total output, followed by social sciences (25 percent), religion (8 percent), technology (7 percent), history and geography (6-7 percent), pure sciences (4-5 percent) and philosophy (3-4 percent). Barring school text books and

popular fiction, the print-run per title is usually subdued, between 1000 and 2000 copies.

7.198 Given the rising cost of book production, the value of library facilities in educational institutions and for the public becomes all the greater. There are successful examples in some states like Kerala where publishing industry and library movement are being developed increasingly on a cooperative, rather than commercial, basis.

7.199 There is a strong association between economic disadvantage and lack of communication resources. Despite the impressive strides, the reach of the mass media is limited, in rural areas and urban slums, especially among women. This is mainly on account of mutually reinforcing factors: low literacy; low purchasing power; and poor means of transportation for delivering newspapers or maintaining radio/television sets. There is also a lack of relevance in the content of the communication in that it can hardly help to make a difference to the lives of the "silent majority". In recent years, policy perceptions are changing, viewing the radio for example, not as a luxury liable to be taxed, but as a "multiplier" of development—as a means, for example, to convey useful information, change attitudes, encourage national integrity, promote peace, protect nature, facilitate school instruction, improve health and nutrition, promote hygienic practices, increase farm productivity and overcome the limitations imposed by illiteracy. Radio, in particular, has certain unique advantages in present Indian conditions, despite the absence of the visual image. Unlike the press, it can get through to illiterates. Compared to television or film, it is relatively cheap, making it possible for radio broadcast to be localised to each community, allowing a focus on topics of special interest to local people. However, its potential in development remains to be fully tapped.

7.200 Meanwhile, the 1980s have seen a convergence of several communication technologies and the increasing potential of their applications. Satellite television bridges physical distances to reach rural and remote areas. Dramatic and

melodramatic serials on television have emerged as popular sources of educational entertainment. The advertising industry has taken giant strides, concurrently with broadcasting turning commercial. Video cassette receivers are beginning to diffuse beyond urban areas. Entrepreneurship in micro-electronics is gaining momentum. Micro-computers are helping to streamline operations in the private and public sectors including railways and airlines. The number of computers increased tenfold during 1984-88. The telephone services are showing some signs of improvement. The number of connections, presently around 5 million, is projected to increase four-fold in the next ten years. Office automation is getting under way. Automatic bank teller machines, facsimile machines, teletext and videotext services are beginning to take off.

7.201 Alongside, mail transmission is getting modernized, linking India's 150,000 post offices reaching nearly all the villages and India directly with almost all the countries of the world. The 35 paise post card is subsidized keeping low income groups in view; and, along with all other 'first class' mail, the post card too gets the benefit of airlift wherever that speeds up transmission, which is often the case. The 136 year old postal system presses into service a variety of modes of conveyance: air, rail, road, boat, camel, horse, cycle and the human being on foot.

7.202 What does this upsurge in communication activity signify for social development? Will social changes induced by new communication technologies lead to problems like greater socio-economic inequality? How does the growth of one communication medium impinge on the role of the others? The experience so far suggests that the answers would depend not so much on the means or technology of communication as on the purposes to which it is put and the methods used in the process. Of this, positive and negative examples are available.

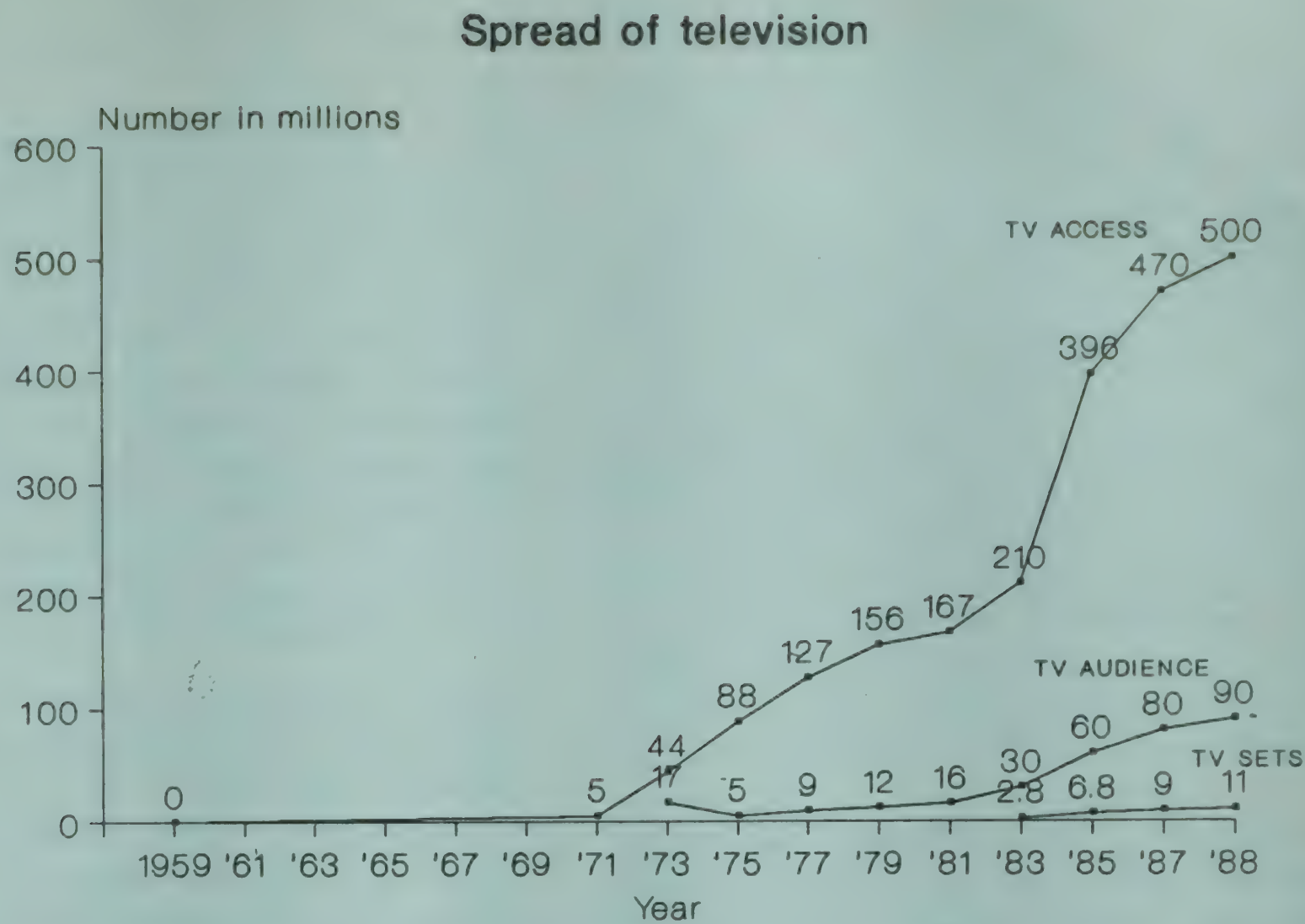
7.203 For instance, the setting up of a small rural automatic telephone exchange in Kittur, a village in Karnataka has, according to an evaluation survey, led to savings in time and money, better prices and sales

for farm products, quicker medical attention, increased social interaction, more law and order, and faster information and news flow. There was the widely acclaimed Kheda Communication Project in Gujarat of decentralised broadcasting which aggressively and successfully encouraged audience participation at all levels. Villagers were involved as actors, writers and visualizers in the production of television programmes dealing with such issues as caste discrimination, minimum wages, cooperatives, alcoholism and local and national elections. The district administration in Karwar chose to invest in a micro-computer, in preference to a jeep; this helped the district to monitor and manage its development programmes better with the result that the district moved up from 18th to third rank in Karnataka. In Madhya Pradesh, Morena district created a computer-based data-bank on its land holdings, aiding more effective decisions on agriculture, irrigation, rural development and land reform. There is the more dramatic experience of vegetable vendors on the sidewalks of a busy market in Ahmedabad in Gujarat. Threatened with eviction, these women, organized under the Self Employed Women's Association (SEWA) met to discuss their problem and alternative solutions. A videotape of the meeting was so expressive of their concern that the municipal authorities relented to reverse their earlier decision to shift them to an alternative site. The largely positive role that mass media have played in generating political consciousness among India's vast, illiterate electorate came through clearly in the last two general elections.

7.204 Less happily, there are signs that consumerism and escapism are becoming the dominant value thrusts of the mass media fare. The media themes and ethos are primarily that of the urban middle classes, who serve as reference models for their rural counterparts. The life style and consumption pattern propagated by the media stimulate among the poorer segments, particularly among children, desires that are not likely to be satisfied.

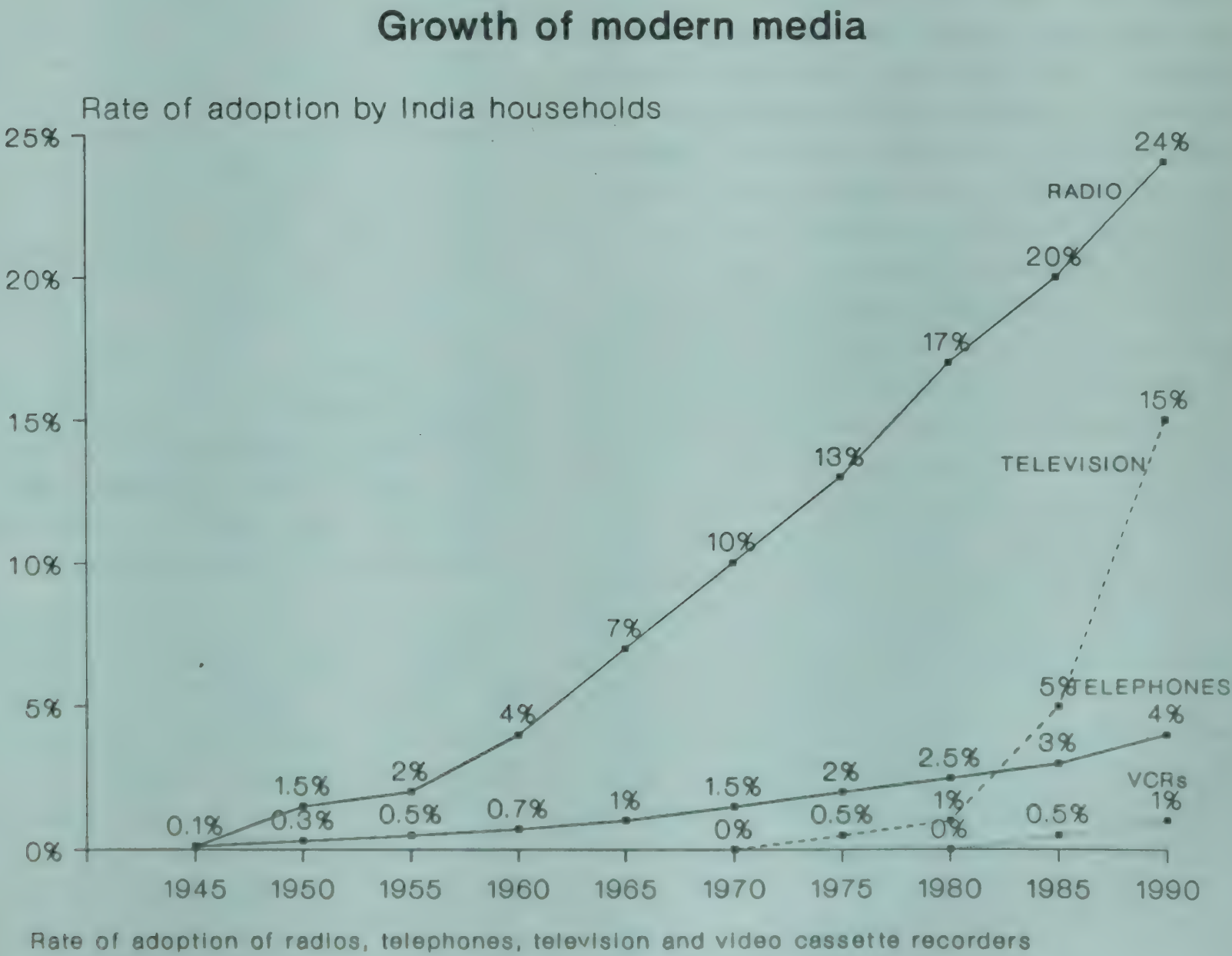
7.205 Communication flows correspond to community structures. To the extent the

DIAGRAM 7.9



Growth in the number of people who have access to television, number of people who watch television, and the number of television sets in India

DIAGRAM 7.10



latter are strengthened, communication becomes democratic. Given the prevailing high rate of literacy and the poor means of transportation in much of the countryside where most people live, it was to be expected that the electronic as well as the print media would cater mainly to the not-so-poor among the urban people. Growth processes, which communication promotes, may continue to flow through existing grooves, unless structural changes occur in the related spheres. Increased communication facilities are necessary but not sufficient for bringing about development and social change. The facilities and processes of communication could be so used as to reduce disparities; or, contrarily, the resources of education and communication could turn the prevailing socio-economic system into a sieve to keep people from creative participation.

7.206 In the search for answers, Indian communicators are increasingly benefitting from new insights as well as advances in related disciplines like participatory education and linkages between the mass media and social institutions. It is realised that formal communication networks can only supplement, and not substitute, interpersonal exchange with and between village citizens. The primacy of inter-personal communication is likely to continue in the Indian context. Recognizing this, imaginative combination of traditional and modern modes are being successfully tried out. For example, media aids stress on initiating a dialogue among the people on matters of social concern, and consist of a variety like puppet shows, posters, and audio and videocassettes. More interestingly, methods with a local relevance and history, like 'awareness songs' are used in audio-cassettes; and the songs are penned, composed and sung by activists from among the people. There have been a path-finding experiments of lasting value—like local programming in rural television for community viewing—in which villages not only watch and discuss programmes but take part in the making of programmes centered on socially relevant issues, goals and values, (for example, the Kheda communication project in Gujarat). In the process, professional communicators are

learning new lessons and testing new principles in social communication.

Social and voluntary organizations

7.207 Like all traditional societies, India has a history of community-level experience in self-help and self-management of common property resources—grazing land, forest, fish pond, irrigation tank. This local function extended to settling internal disputes and handling unusual problems. Sometimes the village panchayat provided the managing mechanism, sometimes the structures internal to caste and religion. Latterly, the community identity appears to have grown weaker in relation to the sectarian or caste identity.

7.208 Though the communitarian spirit has suffered a serious decline under global pressures, something of it survives, and awaits to be activated, if that be possible. Indeed, but for it the poor will have been poorer, as a study of villages in Rajasthan and Andhra Pradesh shows. Over 40 per cent of the survival needs of the poor in the villages studied were met through the 'commons', but for which more than half the total population would have gone below the poverty line. A similar inference is drawn by a study in Kerala where the relatively better quality of life is sustained not only by high levels of literacy, a viable social service net and low rural-urban differences but also by non-market access to the poor of food items like tapioca, fish, coconut and bananas. The current revival of interest in the Panchayat system, as noted earlier in this chapter, could assist a political response to the survival needs of the poor. Participatory democracy at the community level could also increase collective self-reliance and reduce dependence on government for basic services.

7.209 The lives of over 200 million people in abject poverty are unaffected by changes in growth rates or in development strategies. Their need to survive does not become an effective demand in the market as they have no purchasing power. Against this background, the "basic needs" approach to development and planning has the merit of focusing directly on the needs of the poor—in nutrition, health, sanitation,

clothing, shelter, and basic education— to be met in the shortest possible time, either by processes of generating incomes for them or through direct delivery of services. This is the context in which a large number of voluntary groups and agencies have come up in different sectors in recent decades. Apart from their uneven quality, they come up against basic issues. For example, how the 'basic needs' approach can be made to harmonize with the growth-oriented model of mainstream development is not clear. Given the pressures of the global environment, (among them rising debt repayments and falling commodity prices) which bear on the plight of the poor, it becomes difficult to sustain community efforts only at the level of survival.

7.210 The voluntary health sector, which has a significant presence and indeed pioneered activities in such fields as community health and family planning. Several trends are discernible among them. Starting from small beginnings, some of them have grown into modernized curative facilities with limited viability and relevance to the community around. As a reaction, the Voluntary Health Association of India has come up with a presence in most states and a membership of around 3000 organizations. In another persistent trend, voluntary groups starting with health interventions soon find it essential, even for achieving health-related aims, to widen their horizon to other development concerns including self-awareness and self-reliance. As this is not easy, given the local and larger socio-economic structures, an element of protest is reflected among the more activist workers who tend to plough lone furrows in remote rural and tribal areas, propelled by their own ideological, humanist or other convictions. The total number of active voluntary agencies involved in community health is estimated between five and six thousand. Some of them are affiliated to networks—religions, professional, or issue-oriented.

7.211 Rural women's groups, commonly known as mahila mandals, are by now widespread across the country and strong in many states from Gujarat to Manipur, Himachal Pradesh to Kerala. Many volun-

tary agencies successfully link up with these women's groups. While the effectiveness of the latter varies, their potential for community development starting with the more disadvantaged among the poor—namely women—is being increasingly recognized in the context of a decentralised, people-oriented design of development. The interface between organizations of poor rural women and urban-based women's rights activists is evolving.

7.212 There are a number of professional groups such as of medical practitioners who seek to outgrow the conventional mould of the trade union, to relate themselves to processes of social change. The impulse for social work is strengthening among youth organizations and the schools system. Industrial houses are beginning to take a professional interest in community development in the neighbourhood of their enterprises, as a creative expression of their social responsibility as well as of enlightened self-interest. In a parallel initiative, voluntary social associations of businessmen and professionals are assisting in chosen ventures like eradication of poliomyelitis and measles.

7.213 There are examples of innovative cooperation between voluntary agencies and government/ international agencies resulting in improving the situation of the poor. Examples are the 'Shiksha karmi' project in Rajasthan which hires youth passed the middle school as teachers in non-formal night schools; and the Women's Development Project in the same State which enables women to analyse and improve their social status through an interactive process of communication, education and training. On a national scale, the Development of Women and Children in Rural Areas (DWCRA) relies on voluntary and community effort in an attempt to activate the huge, hitherto untapped potential of women in groups.

7.214 During the 1980's, significant changes occurred in the government's policy on voluntary agencies and increasing amounts of public funds are being channelled by several departments through voluntary organizations. Also, of the total number of

registered voluntary organizations, as many as 12,000 or so receive external donor assistance for development work.

7.215 An analysis of the voluntary effort suggests three ascending levels of relevance:

- Organizations working within a service delivery model but in the process emphasizing and making use of local resources and skills.
- The results are often positive, but the activity may not lead to a durable process of group formation, even less to a regeneration of a community, despite a measure of economic improvement.
- Interventions from outside the community which build upon and help foster a community spirit, through forming and assisting people's own organizations.
- Community self-help efforts which do not depend, to any significant extent, on resources or catalysts from outside the community.

7.216 There are groups which begin with notions of service delivery as agents of governmental or other programmes but successfully explore possibilities of developing community-based approaches to identifying and responding to needs through community effort—expanding resources, building skills and enriching collective life. There are instances as in Karnataka of helping tribal people to develop, where material inputs and cash have been modest, outside volunteers few and in low profile, yet the activities have steadily expanded from curative medicine to preventive health care, to education, gainful employment and environmental awareness—leading to an assertion of human rights and participation in civic duties. There are comparable instances of fishermen in Kerala liberating themselves through

cooperative action from middlemen and unequal competition with trawler-fishing and proceeding to achieve improvements in the quality of their lives and further to influence policy measures to regulate fishing in shallow waters. Other examples of voluntary action include the transformation brought about by organized action by piece rate and contract mining workers in Madhya Pradesh; poor farmers in Maharashtra coming together to contribute capital and labour to make water available equitably to all members of the 'Pani Panchayat'; tribal women in West Bengal collectively reclaiming and developing land to grow trees on which to rear tussar silk worms; women workers in Gujarat and elsewhere the unorganized sector organizing themselves to increase their self-reliance; leprosy patients acting together in Maharashtra providing proof that there are no limits to what they can achieve, given the spirit of a simple principle: "work builds, charity destroys".

7.217 There are also examples where people have spontaneously risen without external prompting or leadership to protect their interests and to build on the momentum so gained—like women in Uttar Pradesh who organized themselves to prevent contractors from felling trees and thereafter to form cooperatives to revive the forests; "devotees" of community solidarity and community wealth in Gujarat taking on lease government land for successful joint farming in a spirit of co-development and building up in the process a common trust fund in the process.

7.218 Mention must be made, in this context, of the 'cooperative movement' dating back to 1904 in India. There are some 350,000 societies with a total membership of some 150 million—active in numerous fields like agricultural credit, labour, village and small industries, dairy, fishery and poultry. Largely village based, the movement has vast untapped potential to organize and involve the assetless and illiterate.

7.219 A new genre of voluntary organizations—sometimes referred to as 'middle class support groups'—has made a promising beginning. It consists of environment

activists, lawyers' collectives, alternative professional associations, groups fighting for civil liberties, democratic rights and women's issues, those linked to radical journals and documentation work, street and folk theatre groups, and those engaged

in training and networking local groups on specific issues and in territorial areas. Their contribution has helped to sensitize the public on issues usually neglected by the conventional development and political organizations.

Development Perspectives

Policies and Strategies

As the 1990's begin, there are indications that the strategies of socio-economic development are being reshaped. Political imperatives are prompting alternative approaches towards basic goals already set for the decade and the century, in human and material terms. (Chapter 8).

The situation of the 300 million children in India reflects often sharply the disparities that persist across geographic regions, economic classes, social groups and the rural-urban, tribal-nontribal and male-female distinctions. It would be true to say that far less than half the children today can expect to develop to anywhere near their full potential through access to an essential minimum in nutrition, health care and learning opportunity. Current trends show that an increasing proportion of children are being reached by services and support either directly through specific interventions for them or through broader improvements in the systems that surround their lives. At the same time the absolute numbers of children at one disadvantage or another also appear to be increasing for three main reasons: unabated rate of population growth, decline in the natural life-support systems on account of the pressure of population, inadequacy of resources to meet the basic needs of all the people within the existing design of socio-economic development. It is clear that the agreed goals can be reached in time only by an accelerated pace of progress which in turn implies restructured priorities, higher social sector investments and strategic alternatives and greater efficiency in the use of resources.

Against this background, a profile of social development strategy, focused on the poor and linked to their economic improvement, is emerging across disciplines and depart-

ments. Based on the concept of government agencies and community organizations pulling together, in a clearly defined process towards agreed time bound 'human goals', the strategy has two inter-related elements of relevance to children and women:

Convergent services: Integrated implementation of government-supported programmes such as child development, girls' education and women's employment, should be possible in a holistic approach, centered on child development schemes and built around women's groups in rural and urban areas. Admittedly, there is scope to converge these programmes on the community, to promote reliable administrative mechanisms for a team mode of inter-departmental functioning resulting in better supervision, time management, cost-effectiveness and programme outcome. Of necessity, this effort would involve voluntary agencies, community organizations and government departments.

Community action : Complementing the urgent need to move towards convergent services is the increasing recognition of the possibility and value of generating awareness among the poor and organizing them for collective action. It has been demonstrated that this approach could be promoted through informing, organizing and assisting women's groups, with support or mediation of local representative institutions like village panchayats, municipal ward committees, cooperatives and voluntary organizations. Community involvement in this manner in planning, managing and supervising programmes for children and women is seen as a unifying force for achieving functional linkages between different programmes.



Chapter 8

Towards Human Goals

1990-2000

8.1 The 'Approach' to the 8th five year plan (April 1990 - March 1995) lays emphasis on redirecting the development process and reshaping strategies towards reducing the human problems of mass unemployment, poverty and inequality. The output targets and investment allocations of the plan are currently being worked out, taking into account the implications of the major strategic shift to local level planning progressively to stimulate people's effort, savings and output at the community level. However, the broad policy aims and certain macro-targets have been spelt out:

(a) Policy priorities:

Basic needs: Massive employment generation, dispersed on a wide scale, as a central aim of the development process, linked to

(i) the right to work; (ii) education as a resource for the people; and (iii) adequate production of mass consumer goods using labour-intensive methods. Essential social amenities to all, helped by participatory decision-making, integrated area planning and activation of local democratic institutions like panchayats and cooperatives.

Social policy: Focus on undoing the ills of marginalised and excluded sections such as scheduled and backward castes, classes and tribes, bonded labour, child labour, migrant labour and urban slum dwellers.

Women: Constructive opportunities for expressing the talents and energies of women to enable them to lead a life of dignity and security.

Population: Containing population growth, linked to 'quality' of population through basic needs particularly maternal and child health and education.

Environment: Care and conservation of soil, water and biomass as a primary concern of development planning.

Decentralization: Economising government non-developmental expenditure; reducing dependence on internal and external borrowing; and reshaping them; developmental role of central and state departments to one of setting broad goals, executing inter-regional and inter-district programmes, promoting scientific and technological inputs, planning competence and monitoring and evaluation of progress.

(b) Macro-targets for 1991-95

Growth rate of gross domestic product: 5.5 percent

Savings rate: 22 percent of gdp

Net flow of foreign resources: 1.5 percent of gross domestic product

Annual rate of increase in employment (1990's): 3 percent

Social services and economic base: essential uniform standards for all; food security for the poor; 50 percent adult literacy by 1995 with special attention to female literacy; improved coverage and quality of nutritional support and health-services; protected source of water in every village; and sharp reduction in child mortality and birth rate.

(c) The priorities and goals, as mentioned above, are to be translated into child-related goals and targets for the decade, for example:

Maternal health: Reduce by half the maternal mortality rate of around 400 (per 100,000 live births).

Child health: Halve the infant/under 5 mortality rate, 94 and 146 (per 1000 live births) respectively, with special attention to prevention and control of diseases.

Nutrition: Sharply reduce low birth weight (from 30 percent) and control micronutrient deficiencies (such as of iron, iodine and vitamin A).

Education: Universal primary and elementary education.

Drinking water: Universal access in rural and urban areas.

Sanitation: Accelerated increase in awareness and access.

Girls and women: Equality of rights and opportunities through affirmative action.

8.2 While the goals remain much the same as visualized in the earlier plans, they now appear in bolder relief:

- It is recognized that the achievement of the goals is predicated on real and rapid changes in the structure of output, in development policy and strategy, on systemic reform.
- It is also realised that economic growth has tended to, but need not, result in unemployment, fiscal and trade deficits, inflation, socio-economic inequalities and regional disparities.
- Popular aspirations are rising with progress, albeit uneven, in literacy, communication and mobility.
- Meanwhile, problems like poverty and illiteracy tend to grow in absolute magnitudes, even when relative proportions diminish.
- At the same time, techno-economic feasibility within the country and globally, has helped to bring the goals within reach.
- Advance towards socio-economic goals, expressed in human terms, is increasingly perceived as an opportunity for disparity reduction. Development goals are thus related to human values. Development has become linked to social justice and human rights. This nexus is reflected in two seminal United Nations codifications: The Convention on the Rights of the Child (1989) and the Convention on the Elimination of All Forms of Discrimination Against Women (1979). Both await ratification by India.

- Spelt out in measurable terms, the "human goals" of the 4th United Nations International Development Decade (see statement annexed) exert a positive influence on national efforts in the same direction.
- There is a similar synergistic effect between shared goals within the countries of the South Asia region, arising from the SAARC Conference on Children (1986) and the SAARC Summit Declarations that followed from Bangalore, Kathmandu, Islamabad and Male (1986-1990) focused on changing the situation of the 400 million children of the region.
- Given the appropriate and timely combination of political propulsion and programme strategy, it is possible to extend basic services on a large scale, as seen from India's recent progress towards universal coverage by drinking water supply and immunization.

8.3 Concurrently, certain lessons of development experience derived from the mixed results of the past four decades can exert a salutary influence on public policy and opinion; for example:

- Attention to the interests of children can be deferred only at unacceptable social costs which increase with time.
- Fostering an ethos of caring in the community—not to let a child go to bed hungry, be subjected to a preventable disease, or remain without learning opportunity—could mark the beginning of a social process towards a more humane order.
- Segregation of, and discrimination against women has operated so widely and for so long that emancipation of women has become a precondition for social development. The situation of the girl child is a poignant argument for change.
- Services directly for children need to be complemented, for durable effect, by concurrent changes in the

physical, economic and social structures and systems surrounding them.

- Community management is essential for long-term sustainability.

8.4 What are the practical implications for India of the major global goals for children during the 1990s? Against the background of the detailed discussion in Part I, these are briefly recalled below:

- *Infant Mortality Rate:* The current IMR rate is around 94. The annual death toll is about 2.5 million infants. The historical rate of progress during the past decade shows an average annual reduction of IMR by 2 to 3 points. This rate will have to double to achieve a reduction of 5 points per year on an average, between 1990 and 2000, so that around 1.25 million infants are saved each year. The focus of this effort has to fall mainly on rural areas in states like Uttar Pradesh, Madhya Pradesh, Bihar, Orissa, Rajasthan, Gujarat and Assam, on social groups like the scheduled castes and tribes, on economically weak sections and on the infant girl in particular. Also, the effort has to concentrate on the interacting causes such as diarrhoea, acute respiratory infection, vaccine preventable diseases and malnutrition, primarily caloric and protein deficiency.
- *Mortality of children under 5 years:* The number of annual deaths is around 4 million (including infant deaths). The mortality rate has to be reduced from 150-160 to 70 per thousand live births. The average annual rate of reduction during the 1980s has been 2.8 percent. This will have to be stepped up to 6 to 7 percent. The main cause to be controlled is the interacting presence of malnutrition and infections.
- *Maternal deaths* are now estimated at around 125,000 a year, assuming a maternal mortality rate of 4 to 5 per thousand births. The number of maternal deaths is to be reduced by

a third (or by 40-50 thousand deaths each year). The historical trend in maternal mortality rate, or even reliable estimates of current levels are not available. However, it is known that the main causes are high fertility, chronic malnutrition and morbidity and inadequate care at birth. Low levels of income, literacy and access to health facilities are contributory factors.

- *Malnutrition of children under 5 years:* There is widespread malnutrition due to a combination of inadequate diet and inappropriate feeding practices and repeated infectious diseases. An estimated 45 to 50 million children below five years subsist on a calorie deficient diet, the average deficit possibly around 350 calories a day. Extensive deficiencies exist in respect of protein, iron, iodine, vitamin A and other vitamins and minerals. If no special effort is made to reach children of this vulnerable age-group, (along with a preventive effort in relation to the mothers-to-be) this number may be expected to remain more or less constant, despite the population growth of around 2.2 percent a year, on account of overall economic growth, increasing food production and nutrition supplements to around 12 percent of the population in this age-group. Thus, to reduce child malnutrition by half, an extra effort is needed to substantially improve the nutrition status of around 25 million under 5 children each year by focused support to poverty groups in rural and urban areas.
- *Universal access to safe drinking water and sanitary means of excreta disposal:* As of March 1990, the number of problem villages (those with no source of safe water), stands reduced impressively to around 7000 only. However, the number of villages which are only partially served is around 90,000 (out of the total number of 590,000 villages in the country).

These numbers may vary with changing conditions like drought; and with changing concepts of the "norms" of water supply (like distance of source, elevation difference, depth of well, quantity for consumption and quality (in relation to toxic elements, infection and other contamination). Experience gained in applying technology and mobilizing community points to the possibility of the goal being achieved. The aim in relation to sanitation is somewhat more vexing and success would hinge on changing people's attitude and behaviour through a realistic educational process.

- *Universal access to basic education:* While enrolment at the primary school is reportedly high, school attendance and attainment are admittedly unsatisfactory—with more than half the children in the 6-11 year group out of school at any time. This proportion is much larger in the case of girls, especially those from the scheduled castes and tribes and economically weaker sections in rural areas, more so in the "educationally backward" states of Uttar Pradesh, Bihar, West Bengal, Andhra Pradesh, Madhya Pradesh, Rajasthan and Orissa. There is need to give highest priority to basic education, through restructuring of financing and other means for long-term development. This includes the need to establish some 50,000 additional primary schools to achieve the basic norm of one school for each village, but even more, the quality of teachers has to be enhanced dramatically as part of an improvement in the total learning environment.
- *Adult illiteracy* is to be reduced by half during the decade according to the global goal. Considering the enormous magnitudes involved, the relevant age-group is limited to 15-35 years. The number of illiterates in this age-group is estimated at 110 million. Given the support from

the primary and upper-primary levels in the formal and non-formal education systems, it is expected that, in the absence of a special effort, this number will be maintained at the end of the decade. An extra effort is thus needed to make around 6 million adults literate each year through a variety of approaches – centre-based, voluntary effort and literacy campaigns. Currently, India is attempting a faster rate of progress.

8.5 The strategic implications of applying these and allied lessons in 'human development' are receiving renewed political attention. In particular, the search for strategic alternatives to prevailing approaches had led, on the eve of the Eighth Five Year Plan, to a measure of consensus across shades of political opinion. Awaiting to be translated through policy instruments and institutional mechanisms within a democratic design of development, the main elements of strategy, summarised below, have a direct bearing on social development and in particular on the future of children in India: Recapturing one of the more resilient ideas from the country's experience, resources as well as responsibility for development are to be restored to people in communities at village and urban slum levels. To make this happen, community organizations such as women's groups have to be assisted through a communication-and-training process to stimulate discussion, decision and action. In support, socio-economic and technical inputs are to be extended through workers drawn from the community and trained in promoting basic services as well as collective self-reliance. These community level organizations are to work in tandem with Panchayati raj institutions of local self-government which are being statutorily revitalized with a mandatory minimum representation for women.

8.6 Undergirding this design for change are the strategic elements informing the Eighth Five year Plan:

- The primary responsibility for generating adequate employment and ensuring a basic wage level is to be assumed by the state.

- The rate of population growth is to be reduced not only by intensifying efforts to spread family limitation practices but also by raising the level of literacy among women, reducing infant and child mortality and improving the health care system for mothers and children. The family planning endeavour will pull in the same direction as full employment and satisfaction of basic needs.
- Investment in the rural economy will be increased to expand and diversify its productive base, and to improve facilities of education, health, child care and other basic services, with priority for the needs of the poor and of stagnant regions.
- Anti-poverty programmes will be reoriented to prevent fragmentation, promote integrated area planning and to involve elected, representative institutions of local government as well as voluntary groups working for marginalized and excluded sections. This aim will build on the experience of democratic decentralization available in some states, with focused attention on improving the working of social services, particularly those meant for women and children.
- The role of the state and central government agencies in relation to local development plans is to be reduced and limited to infrastructural and technical support, evaluation of emerging experience and facilitating interaction to learn from successes and failures.
- Strategies of development which centralize power while ignoring basic human needs and conservation of environment, are to be discouraged.
- Women's development is to be encouraged through higher participation in all elected bodies and strengthened network of women's organizations.

- The public distribution system for essential goods at affordable prices is to be improved, involving local democratic institutions, (including cooperatives) and voluntary organizations, cutting down costs and reducing leakages.
- A range of social development activities is to be promoted by giving local communities greater control over the running of facilities for education, health care and public distribution. This would reduce exclusive reliance on bureaucracy and improve integration of inter-related components like maternal and child health care, nutritional support and educational opportunity.

8.7 The prospect for children is dependent on a politically directed change of course and pace of overall development. The recognition is growing that national development strategy must reckon the social costs of children not realizing their full potential. Experience shows that action in support of children must be a contributing factor to, (rather than an eventual consequence of) economic growth.

8.8 In the quest for combining (individual) freedom and (social) justice, the key ques-

tion is no longer about the need for planned socio-economic development, but how can the people be involved in planning to improve their, and their children's lives. Lessons of global experience suggest that a socio-economic system is sound when as many people as possible can fend for themselves and when it helps those who cannot.

8.9 The current qualitative shift in strategy is centred on the principle that the community can and must be its own engine of socio-economic change. This implies decentralized planning and action within the framework of nationally accepted policies. A broad political consensus exists, on the need for a set of complementary strategies to be applied in a concerted way and in a democratic mode—to increase employment, meet basic needs, reduce inequalities in wealth, income and opportunity and raise the productivity of the poor. Accordingly, it is expected that anti-poverty programmes will become integral to, and set the course for mainstream development, failing which the duality of the economy may become more pronounced with disturbing social consequences. The 1990s may in this sense mark a turning point in the story of India's social development.

Global United Nations Goals for Children and Development in the 1990s.

Major child-related goals

- Between 1990 and the year 2000, reduction of infant and under-5 child mortality rate in all countries by one-third or to 50 and 70 per 1000 live births respectively, whichever is less.
- Between 1990 and the year 2000, reduction of maternal mortality rate by one-third.
- Between 1990 and the year 2000, reduction in malnutrition among under-5 children by half.
- Universal access to safe drinking water and to sanitary means of excreta disposal.
- By the year 2000, universal access to basic education and completion of primary education by at least 80 per cent of primary school age children.
- Reduction of the adult illiteracy rate the appropriate age group to be determined in each country) to at least half its 1990 level with emphasis on female literacy.
- Improved protection of children in especially difficult circumstances.
- under-5 children by half of 1990 levels.
- Reduction of the rate of low birth weight (2.5 kg or less) by half of 1990 goals.
- Reduction of iron deficiency anaemia in women by half of 1990 levels.
- Virtual elimination of iodine deficiency disorders.
- Virtual elimination of the blindness and other consequences of vitamin A deficiency.
- Enable virtually all women to exclusively breast-feed their child for four to six months and to continue breast-feeding with complementary food well into the second year.
- Growth promotion and its regular monitoring to be institutionalised in all countries by the end of the 1990s.
- Dissemination of knowledge and supporting services to increased food production to ensure household food security.

Supporting goals.

Women's Health and Education

- Special attention to the health and nutrition of the female child, and pregnant and lactating women.
- Access by all couples, especially women, to knowledge on child spacing/
- Achievement of universal primary education with special emphasis for girls, and accelerated literacy programmes for women.

Nutrition

- Reduction in severe as well as moderate malnutrition among

Child Health

- Global eradication of polio by the year 2000.
- Elimination of neonatal tetanus by 1995.
- Reduction by 95 per cent in measles deaths and reduction by 90% of measles cases by 1995, compared to pre-immunization levels as a major step to the global eradication of measles in the longer run.
- Maintenance of a high level of immunization coverage (at least 85 percent of children under one year

of age) against DPT, BCG, measles, polio and TT.

- Reduction by 50 per cent in the deaths due to diarrhoea in children under the age of five years; and 25 percent reduction in the diarrhoea incidence rate.
- Reduction by 50 percent in the deaths due to acute respiratory infections in children under five years.

Water and Sanitation

- Universal access to safe drinking water.
- Universal access to sanitary means of excreta disposal.
- Elimination of guinea-worm disease by 1995.

Basic Education

- Expansion of early childhood development activities including appropriate low-cost family and community based interventions.
- Universal access to basic education, and completion of primary education by at least 80 per cent

of primary school age children through formal schooling or non-formal education of comparable learning standard, with emphasis on reducing the current disparities between boys and girls.

- Reduction of the adult illiteracy rate (the appropriate age group to be determined in each country) to at least half its 1990 level, with emphasis on female literacy.
- Increased acquisition by individuals and families of the knowledge, skills and values required for better living, made available through all educational channels, including the mass media, other forms of modern and traditional communication, and social action, with effectiveness measured in terms of behavioural change.

Children in Difficult Circumstances

- Provide improved protection of children in especially difficult circumstances and tackle the root causes leading to such situations.

List of Tables

| | <i>Page</i> |
|---|-------------|
| 1.1 Ratios of age-specific death rates,India, 1987 | 13 |
| 1.2 Percent distribution of live births by order of birth - 1984 | 14 |
| 1.3 Percentage distribution of deaths by cause related to child birth and pregnancyr 1981 - 1987. | 15 |
| 1.4 Distribution of death during pregnancy and childbirth by specific cause and age group | 16 |
| 1.5 Type of attention at birth in rural areas,1987 | 17 |
| 1.6 Statewise perinatal mortality rates,India 1971,1981,1987 | 18 |
| 1.7 Statewise stillbirth rates,India 1971,1981,1987 | 19 |
| 1.8 Hospital and community data on live births. | 20 |
| 2.1 Average estimated infant mortality rates,India and major states,1978-82 and 1983-87 | 22 |
| 2.2 Estimated infant mortality rates for major states, 1988 | 22 |
| 2.3 Percentage of (a) infant deaths to total deaths,(b)neo-natal deaths to infant deaths ,(c) deaths among children(0-4 years) to total deaths,1987 | 23 |
| 2.4 Mortality indicators upto age of one year, 1976-1987 | 26 |
| 2.5 Infant mortality rate by present age of the woman,India,1984 | 26 |
| 2.6 Infant mortality rate by age at marriage of the woman, India ,1984 | 27 |
| 2.7 Infant mortality rate by religion of the woman , India,1984 | 27 |
| 2.8 Infant mortality rate by scheduled caste/tribe status of woman,India ,1984 | 27 |
| 2.9 Infant mortality rate by level of education of the woman,India,1984 | 27 |
| 2.10 Infant mortality rate by total annual income of the household , India,1984 | 28 |
| 2.11 Infant mortality rate expressed as an index of first parity for varions groups, 1984 | 29 |
| 2.12 Percent distribution of infant and child deaths by type of attention at death, 1984 | 29 |
| 2.13 Female literacy rate (1987-88) and infant mortality rate (1988) by state/union territory | 30 |
| 2.14 Age-specific death rate for children 0-4 years,India | 31 |
| 2.15 Calorie-protein adequacy | 35 |
| 2.16 Nutritional status of children (1-5 years) in selected states by weight-for- age,percentage | 35 |
| 2.17 Percent distribution of children 1-5 years, Gomez scale, (selected states)' | 36 |
| 2.18 Percent distribution of households according to calorie/protein adequacy (selected states) | 36 |
| 2.19 Summary nutritional status of households in rural Bihar by social class(% distribution) 1981 | 37 |
| 2.20 Comparision of nutritional status (by weight-for-age estimations) of pre-school children in non ICDS populations in 1976 and 1985 and | |

| | | |
|------|--|----|
| | in ICDS population in 1985 | 38 |
| 2.21 | Nutritional status of pre-school children(0-6 years) in ICDS project areas. | 38 |
| 2.22 | Vitamin A deficiency in children | 37 |
| 2.23 | Incidence of Bitot's spot among children in rural areas (percentage) | 39 |
| 2.24 | Percent prevalence of anaemia among boys and girls in different age groups, 1981 | 39 |
| 2.25 | Dietary availability of iron | 40 |
| 2.26 | Incidence of neo-natal chemical hypothyroidism(NCH) in endemic and non-endemic areas in India | 41 |
| 2.27 | Distribution of children by intelligence quotient in the study population and control population | 41 |
| 3.1 | Child population projections(by age in millions) | 48 |
| 3.2 | Population in 6-11 years age group and other Indicators in selected states:1981 | 54 |
| 3.3 | Proportion of children attending school:1981 | 55 |
| 3.4 | Proportion of 6 year old children attending school:1981 | 56 |
| 3.5 | Percentages of children in the age group of 5-14 years attending educational institutions according to the monthly per-capita consumer expenditure classes | 56 |
| 3.6 | Percentages of children from backward classes and rest of the population attending educational institutions | 57 |
| 3.7 | Percentage of children in the age group of 5-14 years attending educational institutions according to selected employment status categories of households | 57 |
| 3.8 | Distribution of total boy and girl workers in the age group 5-14 among some employment categories | 60 |
| 4.1 | Age specific mortality rates by gender and by rural and urban areas, 1987 - India | 64 |
| 4.2 | Sex ratio 1901-1991 - India | 64 |
| 4.3 | Sex ratio, inter-country | 65 |
| 4.4 | Sex ratio : districts of cumulative decline 1901-81 | 65 |
| 4.5 | Ratio of female to male age-specific death rates,1987 | 66 |
| 4.6 | Energy and protein intake by males and females of differnt age groups | 67 |
| 4.7 | Percentage of females with weight less than 38 kg calculated from NNMB data 1974-79 | 68 |
| 4.8 | Percentage of women with height less than 145 cm calculated from NNMB data | 68 |
| 4.9 | Iron and vitamin A intake of women and girls in different states | 68 |
| 4.10 | Sex differences in iron and vitamin A intake. | 69 |
| 4.11 | Enrolment in classes I-V and gross enrolment ratios for males and females (1950-51 to 1987-88) | 70 |
| 4.12 | Enrolment in classes VI to VIII and gross enrolment ratios of children age 11-14,(1950-51 to 1986-87) | 71 |
| 4.13 | Enrolment of Scheduled Castes and Tribes, 1986 | 71 |

| | | |
|------|---|----|
| 4.14 | Percentage increase in enrolment at primary and upper primary level 1978-1986 | 71 |
| 4.15 | Percentage of children aged 6-11 and 11-14 attending school, by sex and rural urban residence, (1981) | 72 |
| 4.16 | Number and proportion of illiterate children aged 5-9 years, 1961, 1971, 1981 and 1987-88 | 72 |
| 4.17 | Number and proportion of illiterate children aged 10-14 years, 1961, 1971, 1981 and 1987-88 | 73 |
| 4.18 | Time allocation revealing segregation of activities by age and sex (percent in brackets) | 74 |
| 4.19 | Work participation rates for child workers 0-14 years, by sex 1987-88. | 75 |
| 4.20 | Sex ratio 1901-1991 - states, India | 75 |
| 4.21 | Age-specific mortality rates for 0-19 year old males and females in rural and urban areas (1971-87) | 76 |
| 4.22 | Mean intakes (%RDA) of energy and protein by women and girls at different ages in different states. | 77 |
| 4.23 | Enrolment of scheduled castes (total and girls) at various school stages | 78 |
| 4.24 | Enrolment of scheduled tribes (total and girls) at various school stages | 79 |
| 5.1 | Selected nuptiality indicators – India and status, 1971 and 1981 (Census) | 82 |
| 5.2 | Percentage of women employed in organised sector | 84 |
| 5.3 | Expectations of life at birth for 1981-2000, India | 86 |
| 5.4 | Age specific death rates by broad age group for males and females, and relatives risk of dying for females to males, India, India rural, 1981, 1986 | 87 |
| 5.5 | Literacy rates (all ages) | 88 |
| 5.5A | Literacy rates, age 7 and above, India and States, 1981 & 1991 | 90 |
| 5.6 | Literacy by sex, urban rural classification (all ages including 0-4 years) 1961, 1971, 1981-India | 91 |
| 5.7 | Literacy, illiterates (above 5 years) and effective literacy rates, (above 5 years), by residence and sex, 1981 | 92 |
| 5.8 | Effective literacy rates (5 years and above) by location and sex for 14 populous states, 1981. | 92 |
| 5.9 | Rural female illiterates in five backward states, 1981. | 93 |
| 5.10 | Distribution of districts by rural female literacy rates (percent) 1981 | 93 |
| 5.11 | Scheduled castes and scheduled tribes literacy rates (percent) by sex and location, 1981 | 94 |
| 5.12 | Percent distribution of currently married women by educational level, India | 94 |
| 5.13 | Percent distribution of currently married women by age at marriage and by level of education in rural and urban areas India | 94 |
| 5.14 | Mean age at marriage of currently married women by level of education, India | 95 |
| 5.15 | Child mortality by educational level of mother, India, 1981 | 95 |
| 5.16 | Completed level of fertility average number of children ever born per woman in the age group 45 - 49 by educational level, 1981, India | 95 |

| | | |
|------|--|-----|
| 5.17 | Sex ratio of children ever born and children surviving by different educational levels of women | 95 |
| 5.18 | Unadjusted and adjusted fertility rates by educational level of women | 96 |
| 5.19 | Education-specific usual status principal worker population ratio for females of age 15 years and above, 1987-88,India | 96 |
| 5.20 | Distribution of literacy and earns by broad age group, 1987. | 97 |
| 5.21 | Distribution of female workers(respondents) by broad age group,1987 | 97 |
| 5.22 | Distribution of females workers(respondents) by educational level,1987 | 97 |
| 5.23 | Literacy amongst females workers(respondents) by broad activity group and nature of employment ,1987. | 98 |
| 5.24 | Percentage distribution of responses on activty status of female workers (respondents),1987 | 98 |
| 5.25 | Percentage distribution of activity responce of female workers (respondents)by detailed activity group,1981 | 99 |
| 5.26 | Proportion of responses on employment status to total female workers,1987 | 100 |
| 5.27 | Per capita income by nature of employment of female workers (residents),1987 | 101 |
| 5.28 | Share of earnings of female workers (respondents) in family income | 101 |
| 5.29 | Percentage distribution of female workers(respondents) by broad income range ,1987 | 101 |
| 5.30 | Percentage distribution of problems faced by female workers (respondents) by nature of activity ,1987 | 102 |
| 5.31 | Gross literacy rates (percent) by age sex and residence, 1981 | 103 |
| 5.32 | Work participation rates for main workers by educational level, sex and urban/rural residence,1981,India | 104 |
| 6.1 | Demographic trends in India, 1901-1981 | 112 |
| 6.2 | Percentage distribution of children by age group out of total population | 112 |
| 6.3 | Distribution of population by age group | 115 |
| 6.4 | Use of family planning | 116 |
| 6.5 | Factors in fertility control | 116 |
| 6.6 | Birth spacing and infant mortality | 118 |
| 6.7 | Under 5 year mortality and birth rate | 118 |
| 6.8 | Shortage in shelter | 124 |
| 7.1 | Structural change in economy | 133 |
| 7.2 | Distribution of employment of women in the organized sector, by state | 133 |
| 7.3 | Distribution of youth labour force (15-29 years) and unemployment, by education level. | 134 |
| 7.4 | Minimum wages in organized/unorganized sectors | 134 |
| 7.5 | Calorie norms as recommended by ICMR, 1989 | 135 |
| 7.6 | Calorie inadeqacy among adult males and females (percent of population) | 135 |
| 7.7 | Percentage distribution of households and population by monthly per capita expenditure class 1987-88 - India. | 138 |

| | | |
|------|---|-----|
| 7.8 | Percentage distribution of estimated number of persons by monthly per capita expenditure class. | 139 |
| 7.9 | Number and percentage of population below the poverty line, by state 1983-84 and 1987-88. | 139 |
| 7.10 | Percentage of villages having basic amenities within specified distance, by state | 142 |
| 7.11 | Expenditure on social services under the five year plans | 143 |
| 7.12 | Iron, folic acid and vitamin C as well as phytin content of widely and commonly available natural foods consumed contrywide in India by both poor and rich. | 151 |
| 7.13 | Distribution of nutrition expenditures, by states, 1985-86. | 153 |
| 7.14 | Distribution of children under feeding programmes, by state | 154 |
| 7.15 | Pattern of investment of health, family welfare and water supply in different plan periods | 167 |
| 7.16 | Intra-sectorial allocation of health plan funds (Rs. million) | 169 |
| 7.17 | Children in pre-schools | 169 |

List of Diagrams and Maps

| | Page |
|---|------|
| 1.1 India, States and 1991 population (<i>map</i>) | 8 |
| 2.1 Pattern of early deaths | 24 |
| 2.2 Excess female mortality over male mortality by age 5 (<i>map</i>) | 25 |
| 2.3 Infant mortality by source of drinking water, 1989 | 28 |
| 2.4 Infant mortality in rural areas by availability of social amenities, 1984 | 28 |
| 2.5 Calorie gap of young Indian Child | 34 |
| 3.1 Growth of population and enrolment | 53 |
| 3.2 Growth of enrolment by gender | 53 |
| 3.3 Children attending school, 1981 | 58 |
| 3.4 School attendance, Rajasthan, Maharashtra, Kerala, 1981 | 59 |
| 5.1 Rural female literacy, 1987-88 (<i>map</i>) | 89 |
| 5.2 Position and projection of illiterates in India, age group, 15-35 | 90 |
| 6.1 Rainfall (<i>map</i>) | 109 |
| 6.2 Growth of population | 113 |
| 6.3 Decadal growth rate of population | 113 |
| 6.4 World population projections | 114 |
| 6.5 Correlation of birth rate and under-5 mortality rate, 1981 | 117 |
| 6.6 Megacities, 1950-200 | 119 |
| 6.7 Housing gap in India, 1981-2001 | 123 |
| 7.1 Population in poverty 1987-88 (<i>map</i>) | 137 |
| 7.2 Annual growth rate | 141 |
| 7.3 Social sector plan outlay, 1951-90 | 144 |
| 7.4 Immunization of infants, pregnant women | 157 |
| 7.5 Endemic areas of iodine deficiency (<i>map</i>) | 163 |
| 7.6 Primary school by management, 1986 | 175 |
| 7.7 Progress of literacy | 176 |
| 7.8 Growth of schools | 176 |
| 7.9 Spread of television | 183 |
| 7.10 Growth of modern media | 183 |

Definitions

| | |
|---------------------------------------|--|
| Child | person of age below 15 years. |
| Under five mortality rate | annual number of deaths of children under five years of age per 1,000 live births. |
| Infant mortality rate | annual number of deaths of infants under one year of age per 1,000 live births. |
| Neonatal mortality rate | annual number of infants dying within the first month of life (under 28 days) per 1,000 live births. |
| Maternal mortality rate | annual number of deaths of women from pregnancy related causes per 100,000 live births. |
| Life expectancy at birth | the number of years new-born children would live if subject to the mortality risks prevailing for the cross-section of population at the time of their birth. |
| Child dependency ratio | the number of children in the age group 0-14 years per 1,000 persons in the age group 15-59 years. |
| Crude birth rate | annual number of live births per 1,000 population. |
| Crude death rate | annual number of deaths per 1,000 population. |
| Sex ratio | the number of females per 1,000 males in a population. |
| Gross reproduction rate | average number of daughters that would be born to a woman if she experiences the current fertility pattern throughout her reproductive span (15-49 years). |
| Net reproduction rate | average number of daughters that would be born to a woman if she experiences the current fertility and mortality patterns throughout her reproductive span (15-49 years). |
| Age-specific fertility | the number of live births in a year to 1,000 women in any specified age group. |
| General marital fertility rate | the number of annual live births to 1,000 women in the reproductive age group (15-49 years). |
| Total fertility rate | the number of children that would be born per woman, if she were to live to the end of her child-bearing years and bear children at each age in accordance with prevailing |

| | | | | | | | | | | | | | | | | |
|------------------------------|--|-------------|----------|-------|-----|-------|------|-----|-------|-------|-----|-------|-------|-----|-------|-------|
| | age-specific fertility rates. | | | | | | | | | | | | | | | |
| Total marital fertility rate | the average number of children that would be born to a married woman if she experiences the current fertility pattern throughout her reproductive span (15-49 years). | | | | | | | | | | | | | | | |
| Age-specific mortality rate | the number of deaths per 1,000 population in a specified age group in a given year. | | | | | | | | | | | | | | | |
| Low birth weight | 2,500 grams or less | | | | | | | | | | | | | | | |
| Breast-feeding | percentage of mothers either wholly or partly breast-feeding. | | | | | | | | | | | | | | | |
| Standards for body weight | used for classification of children into nutritional grades (Gomez classification) : <table><tr><td>Age (Years)</td><td>Boys(kg)</td><td>Girls</td></tr><tr><td>1 +</td><td>10.50</td><td>9.80</td></tr><tr><td>2 +</td><td>12.50</td><td>11.30</td></tr><tr><td>3 +</td><td>14.75</td><td>13.30</td></tr><tr><td>4 +</td><td>17.25</td><td>15.65</td></tr></table> | Age (Years) | Boys(kg) | Girls | 1 + | 10.50 | 9.80 | 2 + | 12.50 | 11.30 | 3 + | 14.75 | 13.30 | 4 + | 17.25 | 15.65 |
| Age (Years) | Boys(kg) | Girls | | | | | | | | | | | | | | |
| 1 + | 10.50 | 9.80 | | | | | | | | | | | | | | |
| 2 + | 12.50 | 11.30 | | | | | | | | | | | | | | |
| 3 + | 14.75 | 13.30 | | | | | | | | | | | | | | |
| 4 + | 17.25 | 15.65 | | | | | | | | | | | | | | |
| Underweight | moderate and severe – below minus two standard deviations from median weight for age of reference population. severe – below minus three standard deviations from median weight for age of reference population. | | | | | | | | | | | | | | | |
| Wasting | moderate and severe – below minus two standard deviations from median weight for height of reference population. | | | | | | | | | | | | | | | |
| Stunting | moderate and severe – below minus two standard deviations from median height for age of reference population. | | | | | | | | | | | | | | | |
| Literate | person who can read and write with understanding. | | | | | | | | | | | | | | | |
| Adult literacy rate | percentage of persons aged 15 and over who can read and write. | | | | | | | | | | | | | | | |
| Gross enrolment ratio | $\frac{\text{School enrolment at particular stage (regardless of age)}}{\text{Population in corresponding age group}} \times 100$ (the age group for primary stage is 6-11 years, for middle stage 11-14 years and for high/higher secondary stage 14-17 years) | | | | | | | | | | | | | | | |
| Teacher-pupil ratio | $\frac{\text{Total enrolment in type of school}}{\text{Total number of teachers in that type of school}}$ | | | | | | | | | | | | | | | |

| | |
|--|--|
| Retention ratio | computed as the percentage of students continuing their studies out of the total enrolled in Class I. |
| GNP | gross national product. |
| Debt service | the sum of interest payments and repayments of principal on external public and publicly guaranteed debts. |
| Per capita income | it is obtained by dividing the net national product at factor cost by the estimated population in that particular year. |
| Percentage of population below the poverty line | in terms of monthly per capita expenditure is estimated corresponding to daily calorie requirements of 2,400 per person in rural areas and 2,100 in urban areas. |

References

- Aggarwal, Yash. Towards Education for All Children: Intent and Reality. Journal of Educational Planning and Administration. Volume II Nos.1 and 2, 1988
- Anurudh K. Jain, Praveen, Visaria, Infant Mortality Rate in India. Differentials and Deterinants, Sage Publications, New Delhi. 1990
- Bose, Ashish. In Search of a New Strategy for Family Planning in India. Indian Association for the Study of Poglutation, New Delhi. 1988
- Central Statistical Organisation. National Accounts Statistics 1980-87. CSO, New Delhi. 1989
- Centre for Science and Environment. The Wrath of Nature : The Impact of Environmental Destruction on Floods and Droughts. CSE, New Delhi. 1987.
- Centre for Womens' Development studies. Child Care as an Essential Input in Womens' evelopment. CWDS, New Delhi. 1990
- Chhabra, Rami and Sharma, Monica. Health and Family Welfare : Plan of Action for Women. New Delhi. 1987
- Future*, Development Perspectives of Children. Issues 1 to 27, 1982-90, UNICEF, New Delhi, 1985.
- Health and Family Welfare, Ministry of-. Report of the Meeting on Prevention and Control of Nutritional Anaemia, New Delhi 1989. Bulletin on Basic Health Statistics, 1989.
- Khalakdina, Margaret. Early Child Care in India. Gordon and Breach , New York. 1979.
- Kumari, Ranjana et al. Growing up in Rural India. Problems and Needs of Adolescent Girls. Radiant Publishers, New Delhi. 1990
- Kurrien, John. The Education of Girls and Women in India with Emphasis on the Poor and their Environment. Centre for Learning Resources, Pune. 1988
- Lady Irwin College. Infant Stimulation, Documentation of Research in Delhi. New Delhi. 1989
- National Commission on Teachers. The Teacher and Society, Volume I, New Delhi, 1985.
- National Nutrition Monitoring Bureau, Hyderabad. Annual Reports
- National Institute of Educational Planning and Administration. Education for all by 2000. NIEPA, New Delhi. 1990
- National Institute of Urban Affairs. Urban Poverty: A Status Paper. NIUA, New Delhi 1989.
- Nutrition Foundation of India. Nutrition and Health Care, Problems and Policies, New Delhi 1984
- . Combating Malnutrition: Basic issues and Practical Approaches, New Delhi, 1987
- . Nutrition, Health and National Development New Delhi, 1989. Women and Nutriton in India, New Delhi, 1989.
- Operation Research Group, Baroda. Accessibility Utilisation of Basic Services in Selected Urban Slums with Special Reference Given to Children, Baroda. 1988
- Planning Commission. Working Group Report on Child Survival and Child Health Development. Government of India, New Delhi. 1989
- . Report of Working Group on Sanitation. New Delhi. 1989

- . Towards Social Transformation: Approach to the Eighth Five Year Plan - 1990-95. New Delhi. 1990

Registrar General and Census Commissioner. India. Census of India, 1981 India. A Handbook of Population Statistics, 1988

- . Child Mortality.

Rural Development, Department of — . Report of the Committee to Review Administrative Arrangements for Rural Development and Poverty Alleviation Programmes. Government of India, New Delhi. 1985

- . Report of the National Seminar of Poverty Alleviation Programmes, New Delhi. 1988
- . Basic Rural Statistics, New Delhi, 1988, 1989 Panchayat Raj at a Glance. New Delhi. 1990

Sharma, D.K. Education and Socialization among the Tribes. New Delhi 1989.

Shramshakti — Report of the National Commission on Self-Employed Women and Women in the Informal Sector. Self Employed Womens' Association, Ahmedabad. 1987

Situation Analyses of Children and Women (States of India)

- .Andhra Pradesh, Centre for Economic and Social Studies, Hyderabad. 1989
- .Assam, by P .C. Chaudhury. 1989
- .Bihar by Sachchidananda. 1989
- .Chandigarh, by Environmental Society of Chandigarh, Chandigarh. 1989
- .Gujarat, by Cowlagi, VRS. 1991
- .Goa, by Shireen Jhejeebhoy. ed. 1989
- .Haryana, by Haryana Institute of Public Administration, Chandigarh. 1990
- .Himachal Pradesh, by Vandana Rao, Institute of Public Administration, Shimla. 1989
- .Jammu and Kashmir, by Institute of Social Sciences, New Delhi. 1989
- .Karnataka, by Institute for Social and Economic Change, Bangalore. 1989
- .Kerala, by Institute of Management in Government, Trivandrum. 1989
- .Lakshadweep, by C.R Soman, and V. Raman Kutty, 1989
- .Maharashtra, by Shireen Jhejeeboy, ed. 1989
- .Madhyapradesh, by National Centre for Human Settlement and Environment, Bhopal. 1990
- .Manipur, Mizoram, Nagaland, Arunachal Pradesh, Andaman and Nicobar Islands, by Indian Anthropological Society, Calcutta. 1990
- .Meghalaya, by Sinha, A.P, 1990
- .Orissa, by Operations Research Group, Bhubaneshwar. 1990
- .Pondicherry, by M. Ramadass, Pondicherry University, Pondicherry. 1989
- .Punjab, by S. Bhatnagar, Punjab University, Chandigarh. 1990
- .Rajasthan, by Institute of Development Studies, Jaipur. 1990
- . Sikkim, by Kamala Gopal Rao, UNICEF Calcutta, 1990

- *Tamilnadu*, by A.F. Ferguson & Company, Madras. 1989
 - *Tripura*, by P.R. Bhattacharjee, 1989
 - *Uttar Pradesh*, Uttar Pradesh Development Systems Corporation, Lucknow. 1989
 - *West Bengal*, by Institute of Local Government and Urban Studies, Calcutta. 1989
- Subbarao. K. Improving Nutrition in India, World Bank Discussion Paper.
The World Bank. 1989.

Supportive Studies and Papers

- Bijlani, H.U. Water Supply and Sanitation in India (Housing, Urban Development and a Situation Analysis, New Delhi. 1989. Municipal Affairs)
- Bose, A.B. The Urban Child in India, New Delhi. 1989
- Pais, H. (National Labour Institute, New Delhi). Employment and the Poor. New Delhi. 1989
- Centre for the Study of Developing Societies, New Delhi. The Basic Needs Approach and Voluntary/Community Effort. New Delhi. 1990
- Chatterjee, Ashok. Communication Policy in India. National Institute of Design, Ahmedabad. 1989.
- Chatterjee, Meera. Child Health in Relation to Mother Family and Society. New Delhi. 1989
- Datta, Mahendra. Communicable Diseases and Control Measures in India. New Delhi. 1990
- Dighe, Anita. Factors influencing Women's literacy. New Delhi. 1985
- KEM Hospital Research Centre, Pune. Status of Children in Maharashtra with Focus on the Pregnancy and Pre-natal Period. Pune. 1989
- Kochupillai, N. Micro-Nutrient Deficiency in Children in India. New Delhi. 1989
- Krishnamurthy, K.G. Policies and Programmes for Children. New Delhi. 1989
- Kurian, N.J. Poverty in India. New Delhi. 1989
- . Distributional Imbalances in India's Socio-Economic Profile. 1989.
- Mohite, Prerana. Preschool Opportunities in India. Baroda. 1989
- Narang, S.N. Situation of Children in India: A Statistical Overview. New Delhi, 1989.
- Nayar, Usha. Education of the Child in India, with Focus on the Girl Child. National Centre for Educational Research and Training, New Delhi. 1989.
- Pais, H. (National Labour Institute, New Delhi). Employment and the poor. New Delhi 1989.
- Roy, A.K. Major Problem Areas in Sanitation. New Delhi. 1989.
- Singh, Harcharan. A Perspective on Child Mortality and Morbidity in India. New Delhi. 1989
- Sarin, Madhu. Situation of Women in Himachal Pradesh.
- Tamm, Gordan. Rural Water Supply and Sanitation in India: Sectoral Achievements and Constraints. New Delhi. 1989
- Widge, M.K. Legislation in India related to Children, New Delhi. 1989
- Yadava, J.S. (Indian Institute of Mass Communications, New Delhi). Communication for Social Development — The Indian Experience: 1989

- Swaminathan, Mina. Towards a National Policy for the Pre-school Child, Indian Association for Preschool Education, Bangalore. 1972
- . Who Cares? Study of Child Care Facilities for Low Income Working Women. Centre for Women's Development Studies, New Delhi. 1985
- United Nations Development Programme. Human Development Report, UNDP, New York. 1990
- United Nations Population Fund. State of the World Population. UNFPA, New York. 1989
- Urban Development, Ministry of — . Report of the National Commission on Urbanisation. Government of India, New Delhi. 1988
- . Urban Basic Services for the Poor. Government of India, New Delhi. 1989
- Women and Child Development, Department of — . Women in India. A Statistical Profile, 1988. New Delhi. 1988
- World Bank. World Development Report 1990: Poverty. The World Bank, Washington. 1990

Index

- Abortions 15, 16
- Accelerated Rural Water Supply Programme 122
- Access to Learning 50
- Accidents and Injuries 162
- Acute Respiratory Infections 156
- Adolescents Nutrition, NNMB Study 69
- Age Specific Mortality Rate by Gender 64
- Agricultural Land Holding 131
- Agriculture and National Income 131
- Acquired Immuno-Deficiency Syndrome 161
- Anaemia in Pregnancy 12
 - Gujarat 12, 13
 - Maharashtra 13
- Animal Husbandry 150, 151
- Annual Growth Rate 141
- Baruch Tribal Women, Income Generation Experiment 85
- Basic Amenities, Rural 142
- Basic Needs 111
 - Sanitation 125
- Bihar
 - Fertility Control Factors 108
 - Kala Azar 158
 - Rural Households, Nutritional Status 38
- Birth Care
 - Rural Women 17
- Birth Rate 12
 - Spacing and Infant Mortality 108, 118
- Births and Deaths 148
- Bonded Labour 60
- Calorie
 - Children 32
 - Deficiency, NIN Study 39
 - Inadequacy 125, 136
 - Norms, ICMR Recommendations 135
- Caste Factor and Development 129
- Cereal Production 150
- Child
 - Adoption 127
 - Birth Related Maternal Deaths 15
 - Deaths, 0-4 Years 23, 35
 - Exploitation 127
 - Feeding Programmes 154
- Child Labour 60
 - By Employment Category 60, 61
 - Hazardous Chemical Industry 60
- Child Marriage 81, 148
- Mortality By Educational Level of Mother 95
- Mortality Trends 32
- Nutrition
 - Expenditure 153
 - NNMB Study 37
- Population, 6-11 years Age Group 54
 - By Age Group 112
 - Projections 48
- Rearing Practices 48
- Sexual Abuse 126, 127
- Workers in Child Population 78, 79
- Birth Risks 13
- Care Needs 44
- Childhood Diarrhoea 156
 - Disability 43, 61
 - Diseases 155
 - Malnutrition 36
- Children
 - Attending School, 6-14 Years Age Group 72
 - Work Participation 77
- Cholera 161
- Community Toilet 126
- Death Rates, Age Specific 13
- Deficiency Diseases 164
- Demographic Transition and Birth Rate 17
- Demographic Trends 112
- Dengue Fever 159
- Dietary Consumption and Health Status of Young Mothers 68, 69
- Dietary Iron Intake, NNMB Study 37
- Disparity as Development Opportunity 129
- Domestic Injuries 164
- Drug Abuse 148

- Early Childhood 21
 - Education 47
- Early Marriage 81
- Economy 141
 - External Sector 143
- Educational Expenses and Girls' schooling 73, 74
- Educationally Backward States 57
- Effective Literacy Rates 92
- Electrification 131
- Employment
 - And Agriculture 133
 - And Labour 132
 - And Organised Sector 133
- Energy and Protein Intake, By Age Groups 67
- Environmental
 - Air Pollution 111
 - Conservation 111
 - Factors Affecting Development 107
- Epidemics 110
- Expanded Programme on Immunization 156, 158
- Expectation of Life at Birth 86
- Family Planning 116, 164, 165
- Family
 - Size and Quality of Life 115
 - Welfare Programme 116, 117
- Farming Community, Child Rearing Practices 48, 49
- Feeding Programmes 153
- Female
 - Rural Adolescents, Physical Growth, 69
 - Foeticide 20
 - Literacy and Infant Mortality 32
 - Literacy, Backward States 146, 147
 - Literacy, By District 93
 - Regional Variation 91
 - Rural 99
 - Mortality Rate 86, 87
 - Work Participation 83
 - Worker Population Rates, By Education Category 96
- Female Workers
 - Activity Status 98
 - By Age Group 97
 - By Educational Level 97
 - By Income Range 101
 - By Minor Activity Group 99
- Per capita Income By Employment Nature 95
- Problems, By Nature of Activity 102
- Share of Earnings in Family Income 101
- Fertility
 - Control Factors 116
- Level 95
 - Rates, By Educational Level of Women 96
- Fiscal Imbalances 141
- Fishing Community, Child Rearing Practices 48, 49
- Flood and Drought Problems 108
- Folic Acid, Content Indian Foods 151
- Food
 - And Nutrition Support 149
 - Grain Production 110
 - Prices 152
 - Production 150
- Food for Work Programme 140
- Gastro-Intestinal Disorders and Sanitation, AllHPH Study 125
- Girl Child 63
 - As Domestic Servant 77
 - Elementary Education 70, 71
 - Energy and Protein Intake, By State 76
 - Health Care Services 70
 - Labour 74
 - Unrecognized 78, 79
 - Mortality Rate 64
 - Nutrition and Growth 67
 - School Enrolment 71
- Girls' Enrolment, Primary Education 51
- Green Revolution 110
- Gross Literacy Rates 97, 102
- Ground Water Conservation 108, 110
- Guineaworm Infestation 161
- Hand Pump 122
- Health Care, Women and Children 155
- Health Expenditure 167
- Health For All Goal 167
- Health System and Gender Bias 88
- Himachal Pradesh Women, Conditions of living 85
- Hookworm Infestation and Anaemia 12
- Housing Shortage 124
- Human Life Cycle 10
- ICDS And Child Health 165, 166
- Illiteracy, Projections to 2001 90

Illiterate Children
 10-14 Years Age Group 73
 5-9 Years Age Group 72
 Immunization, Infants and Pregnant Women 157
 Income
 Distribution and Imbalance 130
 Generation, Potential Areas 131
 India Mark II Handpump 122
 Infancy 21
 Infant Deaths 31
 Feeding Practices, Urban Slums 34, 35
 Infant Mortality 22
 And Breastfeeding 34
 And Gender Variations 32, 33
 And Infections 33
 Determinants 23
 Infant Mortality Rate
 By Education Level of Woman 28
 By Present Age of Woman 26
 By Religion of Woman 28
 By Schedules Caste/Tribe Status of Woman 28
 By Source of Drinking Water 27
 By Total Income of Household 27
 Infants and Pregnant Women Immunization 157
 Injuries from Agricultural Activities 164
 Institutional Child Care 127
 Intra-Family Food Distribution and Gender Bias 67
 Iodine Deficiency 42
 Iodine Deficiency and Pregnancy 13
 Integrated Rural Development 140
 Iron
 Content, Indian Foods 151
 Deficiency Anaemia 12
 NIN Study 42
 Intake, Women and Girl Child, NNMB Study 68
 Irrigation Planning 108
 Japanese Encephalitis 159
 Jaundice 160
 Juvenile
 Justice 147, 148
 Problems 127
 Kala Azar 158
 Karnataka, Child Rearing Practices 71
 Labour Force 132, 133
 Land and Water Resources Protection 107, 108
 Lathyrism 162
 Legal System 146
 Legislation Child Labour 147
 Leishmaniasis see Bihar, Kala Azar 158
 Leprosy Control 159
 Life Before Birth 11
 Literacy
 By Sex 91
 Female Workers 97, 98, 99
 By Employment/Activity 100, 101
 Rate, Children 6-11 Years Age Group 54
 Scheduled Castes and Scheduled Tribes 94
 Live Births 14, 20
 Lok Adalats 149
 Low Birth-Weight Babies 19, 20
 Urban Slums 19
 Low-Cost Sanitation Systems 126
 Madhya Pradesh, Fertility Control Factors 116
 Malaria Control 158
 Male-Female Death Rates 87
 Manipur, Rural Female Literacy 86
 Married Women
 By Age at Marriage and Educational Level 94
 By Educational Level 94
 Maternal care 15
 Death Causes 13, 15, 16
 Depletion 11
 Mortality Rate 14
 Meningococcal Meningitis 160
 Mid-Day Meals Programme at Schools 153
 Milk Production 150, 151
 Minimum Wages 134
 Mortality
 Indicators 26
 Rates 0-19 year old, age specific 76
 Muslim Community, Child Rearing Practices 49
 National Committee on Self Employed Women 84
 National Health Policy 165
 National Programme for Prevention of Nutritional Anaemia 12
 National Technology Mission for Drinking Water 122
 Neonatal Chemical Hypothyroidism 41

- Neonatal Deaths 23
- Non-Formal Education 57
- Nuptiality Indicators 82
- Nutrition Expenditure, Children under Poverty Line 153
- Nutritional
 - Anaemia 12
 - MSUB Study 42
 - Blindness 40
 - Iodine Deficiency, Uttar Pradesh 13
 - Status Children 37
 - Pre-School Children 39
- Occupational Injuries 164
- Panchayati Raj Institutions 140, 146
- People's courts 149
- Perinatal Mortality 17, 18
 - Causes 18
- Phytin content Indian Foods 151
- Political and Administrative System 144, 145
- Population
 - Below Poverty Line 136, 139
 - By Monthly per capita Expenditure 158, 159
 - Growth 111, 127
 - World Megacities 135
 - By Age Group 115
- Poverty 136
 - Alleviation Programmes 140
 - Affecting School Attendance 73
- Pregnant Woman and Immunisation 157
- Pre-school Learning 47
- Primary Education 50
 - Dropout Rate 52
- Private Health Personnel 166
- Protein - calorie, Household Distribution 38
- Public Distribution System, Food Grains 151, 152
- Punjab, Seasonal Migrant Labour 134
- Rabies 160
- Rainfall 109
- Rajasthan
 - Fertility Control Factors 116
 - Rural Children, Work Participation 73
 - School Enrolment 73
- Rajputs, Child Rearing Practices 48
- Rheumatic Fever 160, 161
- Rural
 - Children, Bitot's spots 40
 - Drinking Water Supply 122
 - Family Planning 116
 - Health Infra-Structure 165
 - Household Assets, National Sample Survey 130
- Rural Infant Mortality
 - By Social Amenity 29
 - Gujarat 31
 - Madhya Pradesh 31, 32
 - Orissa 31
 - Rajasthan 31
 - Uttar Pradesh 30
- Rural Maternal Depletion 11
- Safe Motherhood 11
- Sanitation 124
 - KAP Study, UNICEF 126
- Scheduled Castes
 - Children, Primary School Enrolment 71, 72
- Scheduled Tribes 130
 - Children, School Enrolment 71, 72
- School Attendance
 - And Working Children 73, 74
 - Backward Classes 49
 - By Employment Status of Households 49
 - By Monthly Per capita Consumer Expenditure 48
 - Inter-State Disparities 48
- School Enrolment 51, 57, 71
 - Scheduled Castes Girls 78
 - Scheduled Tribes Girls 79
 - vs Retention 51
- Seasonal and Migrant Labour 134
- Seasonality of Employment and Women 87
- Septic Tank 125
- Sex Differences in Nutrient Intakes NNMB Study 69
- Sex Ratio 64, 65, 66
 - By State 75
- Sexually Transmitted Diseases 161
- Shelter 124
- Slums, Infant Mortality 32
- Social Sector Plan Outlay 143, 144
- Special Nutrition Programme 153
- Still Birth Rate 18, 20
- Survival
 - Rate of Women 86

- Variables 29
- Thyroxine
 - Deficiency
 - And Child Development 42
 - Maternal 42
 - NNMB Study 43
- Transportation Deaths 162, 163
- Tribal Communities, Child Rearing Practices 49
- Typhoid 161
- Unemployment By Education Level 134
- Urban
 - Child Population 120
 - Child Rearing Practices 49
 - Drinking Water Supply 121
 - Family Planning 116
 - Growth 118
 - Maternal Depletion 11
 - Poverty 119
 - Slums 120, 121
 - Child Nutritional Status, 120, 121
 - Health Services 120, 121
 - Literacy 120
 - Working Children 121
- Uttar Pradesh, Fertility Control Factors 116
- Vaccine Preventable Diseases 156
- Vagrant Children 148
- Village Panchayats 146
- Violence Against Women 86
- Viral Hepatitis 160
- Vitamin B Complex Deficiency 43
- Vitamin C, Content Indian Foods 151
- Vitamin D Deficiency 43
- Vitamin A
 - Deficiency 41
 - Intake, Women and Girl Child, NNMB study 68
- Water
 - Flush Toilets 125
 - Management 122, 124
 - Pollution 110
- Water Supply, 121
 - Problem Village 122
- Weaver Community, Child Rearing Practices 49
- Weight and Height, Women NNMB Report 68
- West Bengal Rural Children, Work Participation 74, 77
- Women 81
 - And Water Supply 122
 - Employment, Organized Sector 84, 133
 - Energy and Protein Intake, By State 77
 - Factors Affecting Health Status 87
 - Health Status, NNMB Report 68
 - Reproductive Age 83
 - Social Problems 85
- Worker Participation Rates, By Educational Level 104
- Working Children 60
- Working Mothers and Child Care 44
- World Population Projections 128
- Worm Infestation 161
- Yaws 159
- Youth Labour Force 134
- Zila Parishads 146

